NOTIFICATION OF ADDENDUM

ADDENDUM NO. 2

DATED 11/30/2007

Control	**0508-01-292**
Project	**IM 0107(413)**
Highway	**IH 10**
County	**HARRIS**

Ladies/Gentlemen:

Attached please find an addendum on the above captioned project. Included in the attachment is an adendum notification which details the changes and the respective proposal pages which were added and/ or changed.

Except for new bid insert pages, it is unnecessary to return any of the pages attached.

Bid insert pages must be returned with the bid proposal submitted to the Department, unless your firm is submitting a bid using a computer print out. The computer print out must be changed to reflect the new bid item information.

Contractors and material suppliers, etc. who have previously been furnished informational proposals are not being furnished a copy of the addendum. If you have a subcontractor on the above project, please advise them of this addendum. Acknowledgment of this addendum is not requested if your company has been issued a proposal stamped “This Proposal Issued for Informational Purposes.”

You are required to acknowledge receipt of this addendum on the Addendum Acknowledgement form contained in your bid proposal by placing a mark in the box next to the respective addendum.

Failure to Acknowledge receipt of this addendum in your bid proposal will result in your bid not being read.

04/99

SUBJECT: PLANS AND PROPOSAL ADDENDUMS

PROJECT: IM 0107(413) CONTROL: 0508-01-292

COUNTY: HARRIS

LETTING: 12/04/2007

REFERENCE NO: 1130

PROPOSAL ADDENDUMS

_ PROPOSAL COVER

X BID INSERTS (SH. NO.: 1-17 THROUGH 17-17)

X GENERAL NOTES (SH. NO.: FF (PLAN SHEET 17"O")

X SPEC LIST (SH. NO.: 3-4, 4-4)

X SPECIAL PROVISIONS:

ADDED: 008-081

DELETED: 6154-002

X SPECIAL SPECIFICATIONS:

ADDED: 6951

DELETED: 6154

X OTHER: PLAN SHEETS 17"O", 18, 18A, 18B, 18C, 22, 40

DESCRIPTION OF ABOVE CHANGES
(INCLUDING PLANS SHEET CHANGES)

PROPOSAL:

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BID INSERTS:

SHEET 1-17: REVISED QUANTITIES FOR ITEMS 110-2001 & 132-2006.

SHEET 4-17: REVISED QUANTITIES FOR ITEMS 403-2001, 420-2010 & 420-2117.
ADDED ITEM 416-2007.

SHEET 5-17: REVISED QUANTITY FOR ITEM 432-2066.

SHEETS 6-17 THROUGH 16-17 SHIFTED DUE TO ABOVE CHANGES.

SHEET 17-17: DELETED ITEM 6154, ADDED ITEM 6951.

GENERAL NOTES:

SHEET FF: CHANGED ITEM 6154 IN HEADER TO ITEM 6951.

SPEC LIST:

SHEET 3-4: ADDED SP 008-081. DELETED SP 6154-002.

SHEET 4-4: DELETED SS 6154. ADDED SS 6951.

DESCRIPTION OF ABOVE CHANGES (CONTINUED)
(INCLUDING PLANS SHEET CHANGES)

PLANS:
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PLAN SHEETS:

SHEET 17"O": CHANGED ITEM 6154 IN HEADER TO ITEM 6951.
SHEET 18: CHANGED QUANTITIES OF ITEMS 110-2001, 132-2006, 403-2001, 420-2010, 420-2117, AND 432-2066. ADDED ITEM 416-2007.
SHEETS 18A & 18B: SHIFTED DUE TO ABOVE CHANGES.
SHEET 18C: CHANGED ITEM 6154-2004 TO ITEM 6951-2007.
SHEET 22: CHANGED TOTAL QUANTITIES OF ITEMS 110 AND 132.
SHEET 40: CHANGED ITEM 6154-2004 TO ITEM 6951-2007.

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	100	2002	001	PREPARING ROW DOLLARS and CENTS	STA	111.000	1
	104	2001		REMOVING CONC (PAV) DOLLARS and CENTS	SY	40,713.000	2
	104	2009		REMOVING CONC (RIPRAP) DOLLARS and CENTS	SY	120.000	3
	104	2023		REMOVING CONC (CTB) DOLLARS and CENTS	LF	15,115.000	4
	104	2037		REMOVE CONC (RAIL) DOLLARS and CENTS	LF	678.000	5
	105	2011		REMOVING STAB BASE AND ASPH PAV (2"-6") DOLLARS and CENTS	SY	38,518.000	6
	105	2026		REMOVE STAB BASE & ASPH PAV (13"-18") DOLLARS and CENTS	SY	106,030.000	7
	110	2001		EXCAVATION (ROADWAY) DOLLARS and CENTS	CY	22,479.000	8
	132	2006	002	EMBANKMENT (FINAL)(DENS CONT)(TY C) DOLLARS and CENTS	CY	1,637.000	9
	161	2017	001	COMPOST MANUF TOPSOIL (BIP) (4") DOLLARS and CENTS	SY	39,841.000	10

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	162	2002		BLOCK SODDING DOLLARS and CENTS	SY	10,589.000	11
	162	2003		STRAW OR HAY MULCH DOLLARS and CENTS	SY	89,151.000	12
	164	2039	002	DRILL SEEDING (PERM) (URBAN) (CLAY) DOLLARS and CENTS	SY	39,841.000	13
	164	2041	002	DRILL SEEDING (TEMP) (WARM) DOLLARS and CENTS	SY	49,310.000	14
	166	2001		FERTILIZER DOLLARS and CENTS	AC	20.610	15
	168	2001		VEGETATIVE WATERING DOLLARS and CENTS	MG	2,473.000	16
	170	2002	001	IRRIGATION SYSTEM (TY I) DOLLARS and CENTS	LS	1.000	17
	260	2012	001	LIME(HYD,COM OR QK)(SLRY)OR QK(DRY) DOLLARS and CENTS	TON	2,228.410	18
	260	2014	001	LIME TRT (SUBGR)(DC)(6") DOLLARS and CENTS	SY	165,067.300	19
	276	2224		CEM TRT(PLNT MX) (CL N)(TY E)(GR 4)(6") DOLLARS and CENTS	SY	165,067.300	20
	292	2007		ASPHALT STAB BASE (GR 2)(PG 64) DOLLARS and CENTS	TON	4,875.000	21

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	ITEM NO	DESC CODE	S.P. NO.				
	292	2017		ASPHALT STAB BASE (GR 4)(PG 64) DOLLARS and CENTS	TON	9,078.700	22
	305	2011		SALV, HAUL & STKPL RCL APH PV (0 TO 6") DOLLARS and CENTS	SY	126,323.000	23
	305	2012		SLV, HAUL & STKPL RCL APH PV (6 TO 12") DOLLARS and CENTS	SY	12,005.000	24
	305	2040		SALV, HAUL & STKPL RCL APH PV (15") DOLLARS and CENTS	SY	5,078.000	25
	341	2119		D-GR HMA(QCQA) TY-D SAC-A PG70-22 DOLLARS and CENTS	TON	406.000	26
	341	2122		D-GR HMA(QCQA) TY-D PG70-22 DOLLARS and CENTS	TON	406.000	27
	360	2003	003	CONC PVMT (CONT REINF-CRCP)(10") DOLLARS and CENTS	SY	7,735.100	28
	360	2008	003	CONC PVMT (CONT REINF-CRCP)(15") DOLLARS and CENTS	SY	151,730.000	29
	360	2018	003	CURB (TYPE II) DOLLARS and CENTS	LF	3,592.000	30
	368	2001	001	WIDE FLANGE PAVEMENT TERMINALS DOLLARS and CENTS	LF	794.000	31
	400	2005		CEM STABIL BKFL DOLLARS and CENTS	CY	3,683.150	32

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	ITEM NO	DESC CODE	S.P. NO.				
	400	2006		CUT & RESTORING PAV DOLLARS and CENTS	SY	16.000	33
	402	2001		TRENCH EXCAVATION PROTECTION DOLLARS and CENTS	LF	7,594.500	34
	403	2001		TEMPORARY SPL SHORING DOLLARS and CENTS	SF	2,139.000	35
	416	2004		DRILL SHAFT (36 IN) DOLLARS and CENTS	LF	320.000	36
	416	2005		DRILL SHAFT (42 IN) DOLLARS and CENTS	LF	1,100.000	37
	416	2007		DRILL SHAFT (54 IN) DOLLARS and CENTS	LF	100.000	38
	416	2008		DRILL SHAFT (60 IN) DOLLARS and CENTS	LF	595.000	39
	416	2015		DRILL SHAFT (NON-REINFORCED)(12 IN) DOLLARS and CENTS	LF	63.000	40
	416	2018		DRILL SHAFT (SIGN MTS)(24 IN) DOLLARS and CENTS	LF	52.000	41
	420	2010		CL C CONC (SIGN COLUMN) DOLLARS and CENTS	CY	529.900	42
	420	2117		CL C CONC (SIGN FOOTING) DOLLARS and CENTS	CY	89.900	43

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	ITEM NO	DESC CODE	S.P. NO.				
	432	2001		RIPRAP (CONC)(4 IN) DOLLARS and CENTS	CY	74.700	44
	432	2002		RIPRAP (CONC)(5 IN) DOLLARS and CENTS	CY	73.400	45
	432	2066		RIPRAP (CONC)(CL B) DOLLARS and CENTS	CY	71.800	46
	442	2005		STR STL (MISCELLANEOUS) DOLLARS and CENTS	LB	418.000	47
	450	2013		RAIL (TY SSTR) DOLLARS and CENTS	LF	3,751.000	48
	450	2109		RAIL (TY SSTR) W/DRAIN SLOTS DOLLARS and CENTS	LF	598.000	49
	462	2001		CONC BOX CULV (3 FT X 2 FT) DOLLARS and CENTS	LF	297.000	50
	464	2003		RC PIPE (CL III)(18 IN) DOLLARS and CENTS	LF	3,666.000	51
	464	2005		RC PIPE (CL III)(24 IN) DOLLARS and CENTS	LF	2,668.000	52
	464	2007		RC PIPE (CL III)(30 IN) DOLLARS and CENTS	LF	681.530	53
	465	2001	001	INLET (COMPL)(TY C) DOLLARS and CENTS	EA	4.000	54

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	ITEM NO	DESC CODE	S.P. NO.				
	465	2012	001	INLET (COMPL)(TY A) DOLLARS and CENTS	EA	10.000	55
	465	2013	001	MANH (COMPL)(TY A) DOLLARS and CENTS	EA	17.000	56
	465	2083	001	INLET (COMPL)(GRATE)(TY 2) DOLLARS and CENTS	EA	4.000	57
	465	2105	001	MANH (COMPL)(TY M)(MOD) DOLLARS and CENTS	EA	1.000	58
	465	2255	001	INLET (COMP)(TY AZ2G) DOLLARS and CENTS	EA	27.000	59
	465	2491	001	INLET (COMPL) (TY A) (MOD) DOLLARS and CENTS	EA	15.000	60
	479	2002		ADJ INLETS DOLLARS and CENTS	EA	7.000	61
	496	2007		REMOV STR (PIPE) DOLLARS and CENTS	LF	7,344.000	62
	500	2001	002	MOBILIZATION DOLLARS and CENTS	LS	1.000	63
	502	2001	022	BARRICADES, SIGNS AND TRAFFIC HAN-DLING DOLLARS and CENTS	MO	12.000	64

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	ITEM NO	DESC CODE	S.P. NO.				
	506	2001	010	ROCK FILTER DAMS (INSTALL) (TY 1) DOLLARS and CENTS	LF	75.000	65
	506	2009	010	ROCK FILTER DAMS (REMOVE) DOLLARS and CENTS	LF	75.000	66
	506	2016	010	CONSTRUCTION EXITS (INSTALL) (TY 1) DOLLARS and CENTS	SY	1,040.000	67
	506	2019	010	CONSTRUCTION EXITS (REMOVE) DOLLARS and CENTS	SY	1,040.000	68
	506	2034	010	TEMPORARY SEDIMENT CONTROL FENCE DOLLARS and CENTS	LF	9,212.000	69
	512	2009	001	PORT CTB (FUR & INST)(LOW PROF)(TY 2) DOLLARS and CENTS	LF	140.000	70
	512	2017	001	PORT CTB (DES SOURCE)(LOW PROF)(TY 1) DOLLARS and CENTS	LF	2,820.000	71
	512	2026	001	PORT CTB (MOVE)(LOW PROF)(TY 1) DOLLARS and CENTS	LF	6,509.000	72
	512	2027	001	PORT CTB (MOVE)(LOW PROF)(TY 2) DOLLARS and CENTS	LF	340.000	73
	512	2035	001	PORT CTB (STKPL)(LOW PROF)(TY 1) DOLLARS and CENTS	LF	2,820.000	74
	512	2036	001	PORT CTB (STKPL)(LOW PROF)(TY 2) DOLLARS and CENTS	LF	140.000	75

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	ITEM NO	DESC CODE	S.P. NO.				
	512	2046	001	PORT CTB(MOVE)(SAFETY SH)(TY P&P) DOLLARS and CENTS	LF	52,801.000	76
	512	2047	001	PORT CTB(STKPL)(SAFETY SH)(TY P&P) DOLLARS and CENTS	LF	31,995.000	77
	512	2068	001	PORT CTB(DES SOURCE)(SAFETY SH)(TY P&P) DOLLARS and CENTS	LF	34,095.000	78
	514	2004	001	PERM CONC TRF BARR (SGL SLP)(TY 1)(42") DOLLARS and CENTS	LF	970.000	79
	514	2005	001	PERM CONC TRF BARR (SGL SLP)(TY 2)(42") DOLLARS and CENTS	LF	9,325.000	80
	514	2006	001	PERM CONC TRF BARR (SGL SLP)(TY 3)(42") DOLLARS and CENTS	LF	705.000	81
	540	2001		MTL W-BEAM GD FEN (TIM POST) DOLLARS and CENTS	LF	5,861.000	82
	540	2005		TERMINAL ANCHOR SECTION DOLLARS and CENTS	EA	16.000	83
	540	2011		MTL BEAM GD FEN TRANS (THRIE-BEAM) DOLLARS and CENTS	EA	14.000	84
	542	2001		REMOVING METAL BEAM GUARD FENCE DOLLARS and CENTS	LF	5,690.000	85

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	ITEM NO	DESC CODE	S.P. NO.				
	544	2006		GDRAIL END TRT(INST)(WOOD POST)(TY III) DOLLARS and CENTS	EA	23.000	86
	545	2001		CRASH CUSH ATTEN (INSTL) DOLLARS and CENTS	EA	5.000	87
	545	2002		CRASH CUSH ATTEN (MOVE & RESET) DOLLARS and CENTS	EA	6.000	88
	545	2003		CRASH CUSH ATTEN (REMOVE) DOLLARS and CENTS	EA	5.000	89
	610	2072		REMOVE RDWY ILL ASSEM DOLLARS and CENTS	EA	15.000	90
	613	2006		HI MST IL POLE (150 FT) (100 MPH) DOLLARS and CENTS	EA	14.000	91
	614	2001		HI MST IL ASM(12-400 WATT)(ASYM)(TY A) DOLLARS and CENTS	EA	14.000	92
	618	2022		CONDT (PVC) (SCHD 40) (3") DOLLARS and CENTS	LF	110.000	93
	618	2034		CONDT (PVC) (SCHD 80) (2") DOLLARS and CENTS	LF	5,995.000	94
	618	2035		CONDT (PVC) (SCHD 80) (2") (BORE) DOLLARS and CENTS	LF	70.000	95
	618	2039		CONDT (PVC) (SCHD 80) (3") (BORE) DOLLARS and CENTS	LF	620.000	96

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	ITEM NO	DESC CODE	S.P. NO.				
	618	2052		CONDT (RM) (2") DOLLARS and CENTS	LF	2,950.000	97
	620	2009	001	ELEC CONDR (NO. 6) BARE DOLLARS and CENTS	LF	1,400.000	98
	620	2010	001	ELEC CONDR (NO. 6) INSULATED DOLLARS and CENTS	LF	2,800.000	99
	620	2011	001	ELEC CONDR (NO. 8) BARE DOLLARS and CENTS	LF	6,910.000	100
	620	2012	001	ELEC CONDR (NO. 8) INSULATED DOLLARS and CENTS	LF	13,820.000	101
	624	2004		GROUND BOX TY 2 (243636) W/APRON DOLLARS and CENTS	EA	2.000	102
	624	2014		GROUND BOX TY D (162922) W/APRON DOLLARS and CENTS	EA	34.000	103
	628	2022		ELC SRV TY A 240/480 060 (SS)SS(E)GC(U) DOLLARS and CENTS	EA	4.000	104
	636	2001		ALUMINUM SIGNS (TY A) DOLLARS and CENTS	SF	28.000	105
	636	2002		ALUMINUM SIGNS (TY G) DOLLARS and CENTS	SF	881.000	106
	636	2003		ALUMINUM SIGNS (TY O) DOLLARS and CENTS	SF	3,862.500	107

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	636	2007		REPLACE EXISTING ALUMINUM SIGNS (TY A) DOLLARS and CENTS	SF	56.000	108
	644	2001		INS SM RD SN SUP&AM TY 10BWG(1) SA(P) DOLLARS and CENTS	EA	6.000	109
	644	2004		INS SM RD SN SUP&AM TY 10BWG(1) SA(T) DOLLARS and CENTS	EA	25.000	110
	644	2025		INS SM RD SN SUP&AM TY S80(1) SA(T) DOLLARS and CENTS	EA	7.000	111
	644	2030		INS SM RD SN SUP&AM TY S80(1) SA(U-BM) DOLLARS and CENTS	EA	2.000	112
	644	2058		RELOCATE SM RD SN SUP & AM TY S80 DOLLARS and CENTS	EA	1.000	113
	647	2001		INSTALL LRSS (STRUCT STEEL) DOLLARS and CENTS	LB	3,877.000	114
	647	2002		RELOCATE LRSA DOLLARS and CENTS	EA	2.000	115
	647	2003		REMOVE LRSA DOLLARS and CENTS	EA	14.000	116
	650	2042		INS OH SN SUP(40 FT CANT)(SPAN ONLY) DOLLARS and CENTS	EA	1.000	117

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	ITEM NO	DESC CODE	S.P. NO.				
	650	2085		INS OH SN SUP(80 FT BRDG)(SPAN ONLY) DOLLARS and CENTS	EA	2.000	118
	650	2145		INS OH SN SUP(140 FT BRDG)(SPAN ONLY) DOLLARS and CENTS	EA	1.000	119
	650	2160		INS OH SN SUP(155 FT BRDG)(SPAN ONLY) DOLLARS and CENTS	EA	2.000	120
	650	2173		REMOVE OVERHD SIGN SUP DOLLARS and CENTS	EA	8.000	121
	650	2221		INS OH SN SUP (160 FT BRDG)(SPAN ONLY) DOLLARS and CENTS	EA	1.000	122
	650	2223		INS OH SN SUP (170 FT BRDG)(SPAN ONLY) DOLLARS and CENTS	EA	1.000	123
	658	2240		INSTL DEL ASSM (D-SW)SZ 1(FLX)GF2 DOLLARS and CENTS	EA	136.000	124
	658	2258		INSTL DEL ASSM (D-SW)SZ (TYC)CTB DOLLARS and CENTS	EA	295.000	125
	658	2277		INSTL DEL ASSM (D-SY)SZ (TYC)CTB DOLLARS and CENTS	EA	219.000	126
	658	2278		INSTL DEL ASSM (D-SY)SZ (TYC)CTB(BI) DOLLARS and CENTS	EA	267.000	127
	658	2328		REMOVE DELIN & OBJECT MARKERS ASSMS DOLLARS and CENTS	EA	284.000	128

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	ITEM NO	DESC CODE	S.P. NO.				
	662	2004		WK ZN PAV MRK NON-REMOV (W) 4" (SLD) DOLLARS and CENTS	LF	2,390.000	129
	662	2064		WK ZN PAV MRK REMOV (W) 4" (BRK) DOLLARS and CENTS	LF	19,143.000	130
	662	2067		WK ZN PAV MRK REMOV (W) 4" (SLD) DOLLARS and CENTS	LF	95,282.000	131
	662	2086		WK ZN PAV MRK REMOV (W) (ENTR GORE) DOLLARS and CENTS	EA	17.000	132
	662	2087		WK ZN PAV MRK REMOV (W) (EXIT GORE) DOLLARS and CENTS	EA	18.000	133
	662	2099		WK ZN PAV MRK REMOV (Y) 4" (SLD) DOLLARS and CENTS	LF	88,737.000	134
	668	2106		PREFAB PAV MRK TY C (W) (ARROW) DOLLARS and CENTS	EA	13.000	135
	668	2107		PREFAB PAV MRK TY C (W) (DBL ARROW) DOLLARS and CENTS	EA	2.000	136
	668	2116		PREFAB PAV MRK TY C (W) (WORD) DOLLARS and CENTS	EA	14.000	137
	668	2136		PREFAB PAV MRK (TY C)(MULTI)(SHIELD) DOLLARS and CENTS	EA	10.000	138
	672	2017		REFL PAV MRKR TY II-C-R DOLLARS and CENTS	EA	2,895.000	139

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	ITEM NO	DESC CODE	S.P. NO.				
	677	2001		ELIM EXT PAV MRK & MRKS (4") DOLLARS and CENTS	LF	289,946.000	140
	677	2005		ELIM EXT PAV MRK & MRKS (12") DOLLARS and CENTS	LF	125.000	141
	677	2008		ELIM EXT PAV MRK & MRKS (ARROW) DOLLARS and CENTS	EA	1.000	142
	677	2010		ELIM EXT PAV MRK & MRKS (ENTR GORE) DOLLARS and CENTS	EA	19.000	143
	677	2011		ELIM EXT PAV MRK & MRKS (EXIT GORE) DOLLARS and CENTS	EA	22.000	144
	677	2018		ELIM EXT PAV MRK & MRKS (WORD) DOLLARS and CENTS	EA	1.000	145
	678	2001		PAV SURF PREP FOR MRK (4") DOLLARS and CENTS	LF	220,426.000	146
	678	2002		PAV SURF PREP FOR MRK (6") DOLLARS and CENTS	LF	78,862.000	147
	678	2003		PAV SURF PREP FOR MRK (8") DOLLARS and CENTS	LF	6,710.000	148
	678	2004		PAV SURF PREP FOR MRK (12") DOLLARS and CENTS	LF	3,352.000	149
	678	2007		PAV SURF PREP FOR MRK (ARROW) DOLLARS and CENTS	EA	26.000	150

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	ITEM NO	DESC CODE	S.P. NO.				
	678	2008		PAV SURF PREP FOR MRK (DBL ARROW) DOLLARS and CENTS	EA	4.000	151
	678	2009		PAV SURF PREP FOR MRK (ENTR GORE) DOLLARS and CENTS	EA	12.000	152
	678	2010		PAV SURF PREP FOR MRK (EXIT GORE) DOLLARS and CENTS	EA	14.000	153
	678	2018		PAV SURF PREP FOR MRK (WORD) DOLLARS and CENTS	EA	28.000	154
	678	2021		PAV SURF PREP FOR MRK (BLAST CLN)(4") DOLLARS and CENTS	LF	39,528.000	155
	678	2025		PAV SURF PREP FOR MRKS (SHIELD) DOLLARS and CENTS	EA	20.000	156
	678	2026		PAV SURF PREP FOR MRKS (9") DOLLARS and CENTS	LF	18,705.000	157
	678	2032		PAV SRF PREP FOR MRK(BLT CLN)(ENT GORE) DOLLARS and CENTS	EA	5.000	158
	678	2033		PAV SRF PREP FOR MRK(BLT CLN)(EXT GORE) DOLLARS and CENTS	EA	4.000	159
	684	2003		TRF SIG CBL (TY A) (10 AWG) (4 CONDR) DOLLARS and CENTS	LF	860.000	160

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	ITEM NO	DESC CODE	S.P. NO.				
	687	2001		PED POLE ASSEMBLY DOLLARS and CENTS	EA	2.000	161
	730	2113	009	FULL-WIDTH MOWING DOLLARS and CENTS	CYC	5.000	162
	734	2002		LITTER REMOVAL DOLLARS and CENTS	CYC	5.000	163
	738	2001		CLEANING/SWEEPING (CENTER MEDIAN) DOLLARS and CENTS	CYC	17.000	164
	738	2003		CLEANING/SWEEPING (OUTSIDE MAIN LANE) DOLLARS and CENTS	CYC	17.000	165
	4309	2001		TRENCH DRAIN DOLLARS and CENTS	LF	3,104.000	166
	5050	2001		CONC TRAF BAR CONNECT HDWDR (PORT) DOLLARS and CENTS	EA	1,066.000	167
	6008	2002		REMOVE OVERHEAD SIGN PANELS DOLLARS and CENTS	EA	1.000	168
	6010	2031		COMM CABLE (22 AWG)(6 PAIR) DOLLARS and CENTS	LF	6,275.000	169
	6014	2010		FIBER OPTIC CBL (SNGLE-MODE)(6 FIBER) DOLLARS and CENTS	LF	860.000	170

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	6086	2001		CONDUIT (PREPARE) DOLLARS and CENTS	LF	4,385.000	171
	6473	2004	001	MULTIPOLYMER PAV MRK (W)(6")(SLD) DOLLARS and CENTS	LF	38,840.000	172
	6473	2006	001	MULTIPOLYMER PAV MRK (W)(6")(DOT) DOLLARS and CENTS	LF	362.000	173
	6473	2007	001	MULTIPOLYMER PAV MRK (W)(8")(SLD) DOLLARS and CENTS	LF	6,710.000	174
	6473	2009	001	MULTIPOLYMER PAV MRK (W)(12")(SLD) DOLLARS and CENTS	LF	2,950.000	175
	6473	2010	001	MULTIPOLYMER PAV MRK (W)(12")(LNDP) DOLLARS and CENTS	LF	402.000	176
	6473	2014	001	MULTIPOLYMER PAV MRK (Y)(6")(SLD) DOLLARS and CENTS	LF	39,660.000	177
	6945	2001		RADAR VEHICLE SENSING DEVICE DOLLARS and CENTS	EA	2.000	178
	6951	2007		PREFB PV MK W/WNTY TY B(W)9"(BRK)CNTST DOLLARS and CENTS	LF	18,705.000	179

General Notes:

General

If fixed features require, the governing slopes shown may vary between the limits shown and to the extent determined by the Engineer.

Superelevate the curves to match the existing surface.

Notify the Engineer immediately if discrepancies are discovered in the horizontal control or the benchmark data.

The following standard detail sheets are modified:

Modified Standards

TY M(MOD) MANHOLE WITH OR WITHOUT INLETS DETAIL
SINGLE SLOPE CONCRETE BARRIER TYPE 1 (BRIDGE) SSCB (1)-99 (MOD)
WIDE FLANGE PAVEMENT TERMINALS WFPT (MOD) sheet 1 only

References to manufacturer's trade name or catalog numbers are for the purpose of identification only. Similar materials from other manufacturers are permitted if they are of equal quality, comply with the specifications for this project, and are approved, except for roadway illumination, electrical, and traffic signal items.

The cost for materials, labor, and incidentals to provide for traffic across the roadway and for ingress and egress to private property in accordance with Article 7.7 of the standard specifications is subsidiary to the various bid items. Restore access roadways to their original condition upon completing construction.

Grade street intersections and median openings for surface drainage.

If a foundation is to be placed where a riprap surface or an asphalt concrete surface presently exists, use caution in breaking out the existing surface for placement. Break out no greater area than is required to place the foundation. After placing the foundation, wrap the periphery with 0.5 in. pre-molded mastic expansion joint. Then replace the remaining portion of the broken out surface with Class A or Class C concrete or cold mix asphalt concrete to the exact slope, pattern, and thickness of the existing riprap or asphalt. Payment for breaking out the existing surface, wrapping the foundation, and replacing the surface is subsidiary to the various bid items.

The lengths of the posts for ground mounted signs and the tower legs for the overhead sign supports are approximate. Verify the lengths before ordering these materials to meet the existing field conditions and to conform to the minimum sign mounting heights shown in the plans.

Furnish aluminum Type A signs instead of plywood signs for signs shown on the Summary of Small Signs sheet.

Clearly mark or highlight on the shop drawings, the items being furnished for this project. Submit required shop drawings in accordance with the shop drawing distribution list shown in the note for Item 5 for review and distribution.

General: Roadway Illumination and Electrical

For roadway illumination and electrical items, use materials from pre-qualified producers as shown on the Construction Division (CST) of the TxDOT material producers' list. Use the following website to view this list: http://www.dot.state.tx.us/business/materialproducerlist.htm. The category/item is Roadway Illumination and Electrical Supplies. No substitutions will be allowed for materials found on this list.

Perform electrical work in conformance with the National Electrical Code (NEC) and Department standard sheets.

The Contractor may make the electrical grounding connections and permissible splices using the thermal fusion process, Cadweld, Thermaweld or approved equal, instead of bolted connections and splices.

The Area Engineer will arrange with the Contractor, an inspection of the completed electrical systems for the highway lighting systems before final acceptance for compliance with plans and specifications. The inspection will be made with personnel from the electrical section of the Department's District Transportation Operations Office. Portions of the work found to be deficient during this inspection will not be accepted.

General: Site Management

Mark stations every 100 ft. and maintain the markings for the project duration. Remove the station markings at the completion of the project. This work is subsidiary to the various bid items.

Do not mix or store materials, or store or repair equipment, on top of concrete pavement or bridge decks unless authorized by the Engineer. Permission will be granted to store materials on surfaces if no damage or discoloration will result.

Personal vehicles of employees are not permitted to park within the right of way, including sections closed to public traffic. Employees may park on the right of way at the Contractor's office, equipment, and materials storage yard sites.

Assume ownership of debris and dispose of at an approved location. Do not dispose of debris on private property unless approved in writing by the District Engineer.

Control the dust caused by construction operations. For sweeping the base material in preparation for laying asphalt and for sweeping the finished concrete pavement, use one of the following types of sweepers or equal:

Tricycle Type	**Truck Type - 4 Wheel**
Wayne Series 900	M-B Cruiser II
Elgin White Wing	Wayne Model 945
Elgin Pelican	Mobile TE-3
	Mobile TE-4
	Murphy 4042

General: Traffic Control and Construction

Schedule construction operations such that preparing individual items of work follows in close sequence to constructing storm drains in order to provide as little inconvenience as practical to the businesses and residents along the project.

Schedule work so that the base placement operations follow the subgrade work as closely as practical to reduce the hazard to the traveling public and to prevent undue delay caused by wet weather.

When design details are not shown on the plans, provide signs and arrows conforming to the latest "Standard Highway Sign Designs for Texas" manual.

General: Utilities

The approximate locations of known underground utilities are shown in the plans. Before excavating near existing utilities, contact the utility companies or the utility coordinating committee for exact locations to prevent damage or interference with present facilities. Notify the utility coordinating committee and the Texas One Call System at the following numbers:

Houston Metropolitan Area (HMA) 713-223-4567
Outside HMA, toll-free 1-800-245-4545

This action does not relieve the Contractor of the responsibilities under the terms of the contract on the plans and specifications. Repair any damage caused by the Contractor's operations at no expense to the Department and restore the facilities to service in a timely manner.

Be aware that an operational Computerized Transportation Management System exists within the limits of this project and that the system remains operational throughout construction. Repair any damage to the system within (8) hours of occurrence at no cost to the Department. In the event of system damage, notify TxDOT maintenance (Mr. Doug Vanover at 713-802-5661) within one hour of occurrence. Failure on the part of the Contractor to repair damage to the main fiber optic cable and the CCTV cable trunk lines, which convey all corridor information to TranStar, will result in the Contractor being billed for the full cost of emergency repairs.

Use caution if working in these areas to avoid damaging or interfering with existing facilities.

Approximate locations of the Department's fiber optic lines are shown in the plans. At least 48 hours before starting work, make arrangements for locating existing TxDOT-owned above ground and underground fiber optic, communications, power, illumination, and traffic signal cabling and conduit. Do this by notifying Ms. Mona Kozman of the Houston District Signal Maintenance Section by E-mail at Mkozma1@dot.state.tx.us, by telephone at (713) 802-5895, or by fax (713) 802-5900.

Ensure the interconnection of new equipment to the existing system does not interfere with the operation of the remaining system components. Ensure the system remains completely operational between the hours of 6:00 a.m. Monday and 12:00 a.m. (midnight) Saturday.

The Contractor will not be allowed to interrupt system operation without coordination with TxDOT operations, personnel at Houston TranStar.

Test all circuits to ensure they are clear of faults, grounds and open circuits.

When pulling cables or conductors through the conduit, do not exceed the manufacture's recommended pulling tensions. Lubricate the cables or conductors with a lubricant recommended by the cable manufacturer.

Reference to the manufacturer's trade name or catalog numbers are for the purpose of identification only and the Contractor will be permitted to furnish like materials of other manufacturers provided they are of equal quality and comply with specifications for this project and are approved by the Engineer.

Perform all electrical work in conformance with the National Electrical Code (N.E.C.).

Test each wire of each communication cable installed on this project in accordance with the testing requirements of the specification "Communication cable". Completely replace all communication cable in which any portion of the cable fails to pass all tests.

Provide all necessary terminals and make all necessary connections to ensure a completely operational communications circuit between the Radar Vehicle Sensing Device and the cabinet/hub building to which it is being connected.

Provide all necessary cards and other ancillary items associated with the T-1 communication equipment to ensure a completely operational serial data connection from the Radar Vehicle Sensing Device to the Satellite building. Consider this work incidental to various bid items.

Ensure the Radar Vehicle Sensing Device is mounted and installed according to the manufacturer's recommendation to achieve the specified accuracy and reliability.

Item 5: Control of the Work

The responsibility for the construction surveying on this contract will be in accordance with Article 5.6.B, "Method B".

Before contract letting, electronically generated earthwork cross-section data will be furnished free of charge to the prospective bidders on a compact high-density disk, in an ASCII print format. This will be available through the Association of General Contractors bulletin board service or through the Area Engineer's office. If the earthwork data is not available electronically, reproducible earthwork cross sections are available at the Area Engineer's office for borrowing by copying service companies for the purpose of making copies for the prospective bidders, at the prospective bidder's expense. The earthwork cross-section data provided above is for non-construction purposes only and it is the responsibility of the prospective bidder to validate the enclosed data with the appropriate plans, specifications, and estimates for the projects.

Submit shop drawings electronically for the fabrication of items as documented in Table 1 below. Information and requirements for electronic submittals can be viewed in the "Guide to Electronic Shop Drawing Submittal" which can be accessed through the following web link, "http://www.dot.state.tx.us/publications/bridge/e_submit_guide.pdf". References to 11 in. x 17 in. sheets in individual specifications for structural items imply electronic CAD sheets.

Table 1

2004 Construction Specification Required Shop/Working Drawing Submittals

Spec Item No.'s	Product	Submittal Required	Approval Required (Y/N)	Contractor/ Fabricator P.E. Seal Required	Reviewing Party
7.8	Construction Load Analyses	Y	Y	Y	B
400	Excavation and Backfill for Structures (cofferdams)	Y	N	Y	A
403	Temporary Special Shoring	Y	N	Y	B
420	Formwork/Falsework	Y	N	Y	A
423	Retaining Walls, (calcs req'd.)	Y	Y	Y	C
425	Optional Design Calculations (Prstrs Bms)	Y	Y	Y	B
425	Prestr Concr Sheet Piling	Y	Y	N	B
425	Prestr Concr Beams	Y	Y	N	B
425	Prestr Concr Bent	Y	Y	N	B
426	Post Tension Details	Y	Y	N	B
434	Elastomeric Bearing Pads (All)	Y	Y	N	B
441	Bridge Protective Assembly	Y	Y	N	B
441	Misc Steel (various steel assemblies)	Y	Y	N	B
441	Steel Pedestals (bridge raising)	Y	Y	N	B
441	Steel Bearings	Y	Y	N	B
441	Steel Bent	Y	Y	N	B
441	Steel Diaphragms	Y	Y	N	B
441	Steel Finger Joint	Y	Y	N	B

441	Steel Plate Girder	Y	Y	N	B
441	Steel Tub-Girders	Y	Y	N	B
441	Erection Plans	Y	N	Y	A
449	Sign-Structure Anchor Bolts	Y	Y	N	T
450	Railing	Y	Y	N	A
462	Concrete Box Culvert	Y	Y	Y	C
462	Concrete Box Culvert (Alternate Designs Only,calcs reqd.)	Y	Y	Y	B
464	Reinforced Concrete Pipe (Jack and Bore only; ONLY when requested)	Y	Y	Y	A
465	Pre-cast Junction Boxes, Grates, and Inlets	Y	Y	Y	C
465	Pre-cast Junction Boxes, Grates, and Inlets (Alternate Designs Only, calcs req'd.)	Y	Y	Y	B
466	Headwalls and Wingwalls	Y	N	Y	A
467	Safety End Treatment	Y	Y	Y	A
495	Raising Existing Structure (calcs reqd.)	Y	Y	Y	B
627	Treated Timber Poles	Y	Y	N	T
644	Special Non-Standard Supports (Bridge Mounts, Barrier Mounts, Etc.)	Y	Y	Y	T
647	Large Roadside Sign Supports	Y	Y	Y	T
650	Cantilever Sign Structure Supports - Alternate Design Cacls.	Y	Y	Y	T
650	Sign Structures	Y	Y	N	T
652	Highway Sign Lighting Fixtures	Y	Y	N	T
654	Sign Walkways	Y	Y	N	T
680	Installation of Highway Traffic Signals	Y	Y	N	T
682	Vehicle and Pedestrian Signal Heads	Y	Y	N	T
684	Traffic Signal Cables	Y	Y	N	T
685	Roadside Flashing Beacon Assemblies	Y	Y	N	T
686	Traffic Signal Pole Assemblies (Steel)	Y	Y	Y	T
687	Pedestal Pole Assemblies	Y	Y	N	T
688	Detectors	Y	Y	N	A
784	Repairing Steel Bridge Members	Y	Y	Y	B
SS	Prestr Concr Crown Span	Y	Y	N	B
SS	Sound Barrier Walls	Y	Y	N	B
SS	Camera Poles (Also SS 6611, 6941, etc)	Y	Y	Y	T
SS	Pedestrian Bridge (Calcs req'd.)	Y	Y	Y	B
SS	Screw-In Type Anchor Foundations	Y	Y	N	T
SS	Fiber Optic/Communication Cable	Y	Y	N	T
SS	Spread Spectrum Radios for Signals	Y	Y	N	T
SS	VIVDS System for Signals	Y	Y	N	T

Key to Reviewing Party

A - Area Office

Area Office	Email Address
East Harris Area Office	HOU-EHAShpDrwgs@dot.state.tx.us

B - Bridge Engineer

Bridge Design (TxDOT)	HOU-BrgShpDrwgs@dot.state.tx.us

C - Construction Office

Construction	HOU-ConstrShpDrwgs@dot.state.tx.us
	HOU-LabShpDrwgs@dot.state.tx.us

T - Traffic Engineer	
Traffic Operations	HOU-TrfShpDrwgs@dot.state.tx.us

Item 7: Legal Relations and Responsibilities

Do not initiate activities in a Project Specific Location (PSL), associated with a U.S. Army Corps of Engineers (USACE) permit area, that have not been previously evaluated by the USACE as part of the permit review of this project. Such activities include those pertaining to, but are not limited to, haul roads, equipment staging areas, borrow and disposal sites. Associated defined here means materials are delivered to or from the PSL. The permit area includes the waters of the U.S. or associated wetlands affected by activities associated with this project. Special restrictions may be required for such work. Assume responsibility for consultations with the USACE regarding activities, including PSLs that have not been previously evaluated by the USACE. Provide the Department with a copy of consultations or approvals from the USACE before initiating activities.

The Contractor may proceed with activities in PSLs that do not affect a USACE permit area if a self-determination has been made that the PSL is non-jurisdictional or if proper USACE clearances have been obtained in jurisdictional areas or have been previously evaluated by the USACE as part of the permit review of this project. The Contractor is solely responsible for documenting any determinations that their activities do not affect a USACE permit area. Maintain copies of their determinations for review by the Department or any regulatory agency.

Document and coordinate with the USACE, if required, before hauling any excavation from or hauling any embankment to a USACE permit area by either 1 or 2 below:

1. **Restricted Use of Materials for the Previously Evaluated Permit Areas.** Document both the Project Specific Locations (PSL) and their authorization. Maintain copies for review by the Department or any regulatory agency. When an area within the project limits has been evaluated by the USACE as part of the permit process for this project:
   a. Suitable excavation of required material in the areas shown on the plans and cross sections as specified in the Item, “Excavation” is used for permanent or temporary fill (under the Item, “Embankment”) within a USACE permit area.
   b. Suitable embankment (under the Item, “Embankment”) from within the USACE permit area is used as fill within a USACE evaluated area.
   c. Unsuitable excavation or excess excavation, “Waste” (under the Item, “Excavation”), that is disposed of at a location approved within a USACE evaluated area.

2. **Contractor Materials from Areas Other than Previously Evaluated Areas.** Provide the Department with a copy of USACE coordination or approvals before

initiating any activities for an area within the project limits that has not been evaluated by the USACE or for any off right of way locations used for the following, but not limited to, haul roads, equipment staging areas, borrow and disposal sites:

a. The Item, "Embankment" used for temporary or permanent fill within a USACE permit area.
b. Unsuitable excavation or excess excavation, "Waste" (under the Item, "Excavation"), that is disposed of outside a USACE evaluated area.

The total area disturbed for this project is 45 acres. The disturbed area in this project, project locations in the Contract, and the Contractor project specific locations (PSLs) within 1 mile of the project limits for the Contract, will further establish the authorization requirements for storm water discharges. The Department will obtain an authorization to discharge storm water from the Texas Commission on Environmental Quality (TCEQ) for the construction activities shown on the plans. The Contractor is to obtain required authorization from the TCEQ for Contractor PSLs for construction support activities on or off the ROW. When the total area disturbed in the Contract and PSLs within 1 mile of the project limits exceeds 5 acres, provide a copy of the Contractor NOI for PSLs on the ROW to the Engineer (to the appropriate MS4 operator when on an off-state system route) and to the local government that operates a separate storm drain system.

This project does not require a U.S. Army Corps of Engineers (USACE) Section 404 Permit before letting, but if a permit is needed during construction, assume responsibility for preparing the permit application. Submit the permit application to the Department's District Environmental Section for approval. Once the permit application is approved, the Department will submit it to the USACE. Assume responsibility for the requested revisions, in coordination with the Department's District Environmental Section.

Do not store any material in Waters of the United States inside the right of way without written approval.

Before construction operations begin, provide a drawing of the location of proposed temporary access roads, haul roads, or temporary fill used during construction operations to ensure that they are not within Jurisdictional Waters of the United States.

If the Contractor elects to use an area not permitted and determined to be within Jurisdictional Waters of the United States during the prosecution of the work, the Contractor will hold the Department harmless for delays caused by procuring the necessary permits from the United States Army Corps of Engineers.

Maintain the roadway slope stability. Maintaining slope stability is subsidiary to the various bid items.

Item 8: Prosecution and Progress

The road-user cost liquidated damages are $ *20,000.00* per day. After the project is substantially complete, the liquidated damages become those based on contract administration costs. These are assessed as defined in the Special Provision to Item 8, which modifies Article 8.5.

Milestones

Milestone No.	Milestone	Daily Road User Cost	Type of Milestone	Begins	Ends	Number of Days
1	Phase 1 Construction	$20,000.00	Fixed	Phase 1 Step 1	End of Phase 1 Step 3	175
2	Phase 3 Construction	$20,000.00	Fixed	Phase 2 Step 1	End of Phase 2 Step 2	177

The total project duration is 352 calendar days.

Credit for Completion of Work Ahead of Time

Milestone No.	Road User Cost/Day	Maximum Number of Days	Maximum Total Amount/Milestone
1	$20,000.00	30	$ 600,000.00
2	$20,000.00	30	$ 600,000.00

The Contractor will receive a credit in the amount of $ *20,000.00* per day for substantially completing the project in less than the number of days stipulated on the proposal cover. The maximum number of days for computing the incentive credit is *60* days. The maximum amount of incentive is $ *1,200,000.00*.

Prepare, maintain and submit for approval, a Critical Path Method (CPM) project schedule using the latest version available at the time the contract is awarded, of Primavera Project Planner computer software.

The Department will supply bidders, upon written request, one electronic copy of the time determination schedule. The time determination schedule provided is for informational use only and is not intended for bidding or construction purposes.

The Department will not adjust the number of days for the project and milestones, if any, due to differences in opinion regarding any assumptions made in the preparation of the schedule or for errors, omissions, or discrepancies found in the time determination schedule.

Working days will be computed and charged based on a 7-day workweek in accordance with Article 8.3.A.3.

Working days will be charged Sunday through Saturday, including all holidays, regardless of weather conditions, material availability, or other conditions not under the control of the Contractor.

The Lane Closure Assessment Fee is $ *2,500.00*. This fee applies to the Contractor for closures or obstructions that overlap into restricted hour traffic for each hour or portion thereof, per lane, regardless of the length of lane closure or obstruction. For Restricted Hours subject to Lane Assessment Fee refer to the Item, "Barricades, Signs, and Traffic Handling".

Item 100: Preparing Right of Way

Clean existing ditches under fill sections of undesirable materials including grass, muck and trash. Perform this work in accordance with the Construction article of the Item, "Preparing Right of Way". This work is subsidiary to this bid item.

The Item, "Preparing Right of Way" will be measured for payment only in those designated areas shown on the plans. Preparing right of way necessary to perform construction that is outside designated areas is subsidiary to the bid item.

Remove abandoned utilities that are in conflict with the new utilities, at no expense to the Department.

Reestablish and maintain right of way stakes after completing the right of way preparation activities and until the new utilities are in place.

Remove and assume ownership of the existing ground mounted signs within the limits of roadway construction unless otherwise noted or directed. This work is subsidiary to the Item, "Preparing Right of Way".

Item 104: Removing Concrete

Removing concrete curb is paid as a separate bid item if existing pavement on which it rests is not removed at the same time.

Item 105: Removing Stabilized Base and Asphalt Pavement

Removing curb on cement-stabilized base or on cement treatment being removed at the same time is subsidiary to the Item, "Removing Stabilized Base and Asphalt Pavement".

Obtain a secured site for the stockpile of the treated material to be salvaged from this project. Haul and stockpile the unused material as directed. This work is subsidiary to the Item, "Removing Stabilized Base and Asphalt Pavement".

Item 104: Removing Concrete
Item 105: Removing Stabilized Base and Asphalt Pavement
Item 305: Salvaging, Hauling, and Stockpiling Reclaimable Asphalt Pavement

Case 1 - ACP over asphalt treatment

Removing the Asphalt Concrete Pavement (ACP) and the asphalt treatment are paid under the Item, "Salvaging, Hauling, and Stockpiling Reclaimable Asphalt Pavement".

Remove the ACP separately from the asphalt treatment. Make the removed depth as uniform as possible during each removal pass if the pavement depth being removed is composed of different asphalt layers. Unless otherwise approved, stockpile Reclaimable Asphalt Pavement (RAP) of differing types of quality separately by its intended use such as for the asphalt treatment, cement treatment, lime treatment, or asphalt concrete pavement. Break, crush, or mill the stockpiled materials so that 100 percent pass the 2-in. sieve.

Case 2 - ACP over cement or lime treatment

Removing the Asphalt Concrete Pavement (ACP) material is paid under the Item, "Salvaging, Hauling, and Stockpiling Reclaimable Asphalt Pavement".

Removing the cement or lime treatment is paid under the Item, "Removing Stabilized Base and Asphalt Pavement".

Remove the ACP separately from the cement or lime treatment. Make the removed depth is as uniform as possible during each removal pass if the pavement depth being removed is composed of different asphalt layers. Unless otherwise approved, stockpile the RAP of differing types of quality separately by its intended use such as for the asphalt treatment, cement treatment, lime treatment, or asphalt concrete pavement. Break, crush, or mill the stockpiled materials so that 100 percent pass the 2-in. sieve.

Case 4 - ACP over concrete pavement over base

Removing the Asphalt Concrete Pavement (ACP) material is paid under the Item, "Salvaging, Hauling, and Stockpiling Reclaimable Asphalt Pavement".

Removing the concrete pavement material is paid under the Item, "Removing Concrete".

Removing the base material is paid under the Item, "Removing Stabilized Base and Asphalt Pavement".

Remove the ACP separately from the base. The removed depth is as uniform as possible during each removal pass if the pavement depth being removed is composed of different asphalt layers. Stockpile the RAP of differing types of quality separately by its intended use such as for asphalt treatment, cement treatment, lime treatment, or asphalt concrete pavement. Break, crush, or mill the stockpiled materials so that 100 percent pass the 2-in. sieve.

Case 5 - Concrete pavement over base

Removing the concrete pavement material is paid under the Item, “Removing Concrete”.

Removing the base material is paid under the Item, “Removing Stabilized Base and Asphalt Pavement”.

Item 110: Excavation

If manipulating the excavated material requires moving the same material more than once to accomplish the desired results, the excavation is measured and paid for only once regardless of the manipulation required.

Transition the ditch grades and channel bottom widths at structure locations. Use only approved channel excavation in the embankment.

Item 132: Embankment

If salvaged base is used for the embankment material, break it into small pieces to achieve the required density and to facilitate placing in the embankment. Obtain approval of the material before placing in the embankment.

Furnish Type C material with a maximum Liquid Limit (LL) of 65, a minimum Plasticity Index (PI) of 5, and composed of suitable earth material such as loam, clay, or other materials that form a suitable embankment.

The embankment material used on the project which has a Liquid Limit exceeding 45 will be tested for Liquid Limits at the rate of one test per 20,000 cu. yd. or per total quantity less than 20,000 cu. yd., unless otherwise directed. Only use material that passes the above tests.

Furnish material with a maximum Liquid Limit (LL) of 65.

Item 161: Compost
Item 162: Sodding for Erosion Control
Item 164: Seeding for Erosion Control
Item 166: Fertilizer
Item 168: Vegetative Watering

Refer to the “Fertilizer, Seed, Sod, Straw, Compost, and Water” standard sheet for material specifications, application rates, and for watering requirements.

Item 260: Lime Treatment (Road-Mixed)

For slurry placing, before discharging through the distributors, sufficiently agitate or mix the lime and water to place the lime in suspension and to obtain a uniform mixture.

The Engineer will observe the lime treatment that the Contractor elects to open to construction traffic immediately after compaction. If the construction traffic damages the subgrade, route the traffic off the damaged section in accordance with the standard specification. If the construction traffic does not damage the subgrade, cure the subgrade until other courses of material cover it. Apply these courses within 14 days with a maximum curing period of 7 days.

Place the hydrated and the commercial lime as a water suspension or slurry according to the slurry placing method shown in Article 260.4 (C) (2), "Slurry Placement".

Use the type of lime at particular locations as directed.

Place the quicklime dry or as a slurry.

For the dry quicklime, a spreader box is not required if the lime material is evenly distributed.

The Contractor may construct the lime subgrade under a sequence of work in which the application, mixing, and compaction are completed in the same working day.

Weigh approximately 5 percent of the truckloads or shipments of lime, which are eligible for payment. Perform weighing on certified public scales located at or near the project site in the presence of Department personnel. The Engineer will select the truckloads or shipments of lime which are to be weighed, in a random manner. Provide documentation from certified public scales showing gross, tare and net weights. Provide producer's delivery tickets also showing gross, tare and net weights. Completely empty the lime trailers at the project site. The cost of this operation is subsidiary to the Item, "Lime Treatment (Road-Mixed)".

The percentage of lime shown on the plans is estimated on the basis of engineering tests. If soil tests made during construction indicate properties different than those originally anticipated, the Engineer may vary the percentage of the lime to provide soil characteristics similar to those of the preliminary tests.

If using Type A aggregate in accordance with the Item, "Flexible Base", use only crushed stone, Grade 1.

Item 276: Cement Treatment (Plant-Mixed)

Before placing the new base, wet and coat the construction joints between the new base and the previously placed base with dry cement.

Place the cement treatment in courses with a maximum thickness of 8 in. Place the courses in the same working day unless otherwise approved.

If using a 100 percent crushed stone aggregate for the proposed base, it must contain 3.5 percent cement based on the dry weight of the aggregate. If other aggregate is used, it must contain 4.5 percent cement based on the dry weight of the aggregate. There is no minimum compressive strength requirement for this item.

The requirement for core drilling to determine the thickness of cement treatment is waived if using less than 500 sq. yd. at one location.

Texas test method TEX-117-E is not required for this item.

For widening the existing pavement, the Engineer may waive the requirements for preparing the subgrade by scarifying and compacting if the as-cut subgrade can be maintained to the density of the natural ground and to a uniform consistency when placing the base course. Keep the subgrade wet.

Complete the finishing operations within a period of 5 hours after adding the cement to the base material.

Cure the final course of cement treatment using an asphalt distributor that distributes the asphalt and water mixture material at a rate of 0.25 gallons per square-yard evenly and smoothly or as recommended by manufacturer at the recommended dilution rate, under a pressure necessary for proper distribution. Provide asphalt meeting the requirements of the Item, "Asphalts, Oils, and Emulsions" for curing the cement treatment. Use the following materials for curing the courses of cement treatment:

Curing Material	**Application**
Water	All courses, except final course
PCE	Final course

If using the PCE, furnish a supplier certification for each load of the concentrate PCE delivered. Obtain verification samples for each batch-lot received. The Engineer may vary the application rate.

Spread the material so that the layers of base are uniform in depth and in loose density before compacting.

Before using the RAP from other sources, use the RAP salvaged from within the project limits to the maximum extent possible to produce cement treatment, lime treatment, asphalt treatment, or asphalt concrete pavement, unless otherwise shown on the plans.

Type E material consists of Type A material, crushed concrete, or Reclaimed Asphalt Pavement (RAP) meeting the requirements of Item 247, "Flexible Base." If approved, the 20 percent maximum RAP limitation may be waived.

If using crushed stone for the Type E material under this Item, ensure it meets the requirements for the Item, "Flexible Base", Type A, Grade 1.

If using Recycled Type E cement treatment under proposed flexible pavement, produce it using the existing base salvaged from within this project or from other approved Department projects and salvaged asphalt concrete pavement. Do not use crushed concrete under flexible pavement.

If using Recycled Type E cement treatment under proposed concrete pavement, produce it using the existing base salvaged from within this project or from other approved Department projects, salvaged asphalt concrete pavement, or crushed concrete. If using crushed concrete as an aggregate, meet the requirements of Grade 3.

If using salvaged existing base and asphalt concrete pavement as described above, size it so that all the material, except the existing individual aggregate, passes the 2-in. sieve and is of a gradation that allows satisfactory compaction. Provide salvaged material that does not contain deleterious material such as clay or organic material. Provide material passing the No. 40 sieve, defined as soil binder, with a maximum Plasticity Index of 10 and a maximum Liquid Limit of 35 when tested in accordance with test method TEX-106-E.

Meet the following additional requirements if the base and ACP are salvaged from other Department projects:

1. Obtain written approval before using the material.
2. Salvage and stockpile by approved methods.
3. Stockpile the material for exclusive use by the Department.

Item 292: Asphalt Treatment (Plant-Mixed)
Item 341: Dense-Graded Hot Mix Asphalt (QCQA)

Before using the RAP from other sources, use the RAP salvaged from within the project limits to the maximum extent possible in the production of the cement treatment, lime treatment, asphalt treatment, or asphalt concrete pavement.

Item 292: Asphalt Treatment (Plant-Mixed)

If using the iron ore topsoil as the primary aggregate, meaning 80 percent or more by weight of the total mixture, the requirements for the water susceptibility test are waived.

Mixtures containing the iron ore topsoil are exempted from test methods TEX-217-F (Part I, separation of deleterious material and Part II, decantation test for coarse aggregate) and TEX-203-F (Sand Equivalent Test).

Assume responsibility for proportioning the materials entering the asphalt mixture, regardless of the type of plant used.

Furnish the mix designs for approval.

Compact the courses to a minimum density of 95 percent of the maximum density as determined using test method TEX-126-E.

Meet the following grading requirements:

Sieve (Size)	Percent Passing Grade 4 (Bondbreaker)
1-3/4”	-
1”	-
1/2”	100
No. 4	30 - 70
No. 40	15 - 45

Physical requirements are as follows:

Maximum Plasticity Index (PI) = 8
Maximum Liquid Limit (LL) = 35
Maximum Wet Ball Mill = 50 (crushed stone)
Maximum LA Abrasion = 50 (iron ore)

If blending the materials, perform the Wet Ball Mill test for the composite aggregate.

Form the asphalt material from 3.5 to 7 percent of the mixture by weight.

Provide asphalt treatment with a laboratory molded density of 96 percent plus or minus 1.5 percent. The minimum stability is 30 percent. For nominal aggregate size less than 0.5 in., design the mix in accordance with test method TEX 204-F.

If the layer thickness after placing is 1.25 in. or less, the bondbreaker is exempt from the in-place density control described in Article 292.4(E), “Compaction”.

Item 305: Salvaging, Hauling, and Stockpiling Reclaimable Asphalt Pavement

Keep the removed depth as uniform as possible during each removal pass if the pavement depth being removed is composed of different asphalt layers. Stockpile the RAP of differing types of quality separately by its intended use such as for asphalt treatment, cement treatment, lime treatment, or asphalt concrete pavement (level up). Break, crush, or mill the stockpiled materials so that 100 percent passes the 2-in. sieve.

Verify the depth of asphalt pavement to be removed prior to beginning the removal.

The RAP material shall become the property of the Contractor.

Item 341: Dense-Graded Hot Mix Asphalt (QCQA)

Taper the asphalt concrete pavement at the beginning and ending points.

Use a maximum 6H:1V slope for the asphalt concrete pavement edge.

Where the 6H:1V ACP edge taper extends over onto the unsurfaced shoulders, blade off the loose existing shoulder material to provide a solid base for the outside taper edge. After placing the ACP overlay, blade this material back against the edge taper. This work is subsidiary to the various bid items.

The stockpile will be the point of sampling of coarse aggregate for test method TEX-217-F (Part II, decantation).

Place the asphalt concrete pavement in courses as shown on the typical sections.

Do not use petroleum-based solvents in the beds of hot mix asphalt delivery vehicles.

RAP materials salvaged from within this project (or other approved state projects) may be used to compose up to 10 percent of the final riding surface course. All other layers may contain up to 20% RAP. RAP stockpiles intended for this use must be approved by the Area Engineer prior to their use.

Dilution of tack coat is not allowed.

Do not use Surface Aggregate Classification (SAC) C for this project.

For determining the Asphalt Content, only ignition ovens will be allowed.

Item 360: Concrete Pavement

Where the pavement curb is left off for a later tie, provide the dowels or the tie bars as indicated on the paving detail sheets. The dowel bars and tie bars are subsidiary to the various bid items.

Repair portions of the concrete pavement surfaces that are damaged while in a plastic state before that area receives permanent pavement markings and opens to traffic. Perform repairs that are structurally equivalent to and cosmetically uniform with the adjacent undamaged areas. Do not repair by grouting onto the surface.

On pavement widening, hand finishing in place of the longitudinal float will be permitted.

Where existing pavement is widened with new pavement, place the new pavement a minimum of 2 ft. wide.

Equip the batching plants to proportion by weight, aggregates and bulk cement, using approved proportioning devices and approved automatic scales.

For mono curb, the curb height transitions will be paid at the contract unit price of the larger curb height in the transition. The 2.5-in. laydown curbs for driveways will be paid at the unit price bid for the Item, “Mono Curb (6 in.)”.

High-early strength cement may be used for frontage road and city street intersection construction.

Do not use limestone dust of fracture as fine aggregate.

If the concrete design requires greater than 5.5 sacks of cementitious material per cubic yard, obtain written approval. If placing concrete pavement mixes from April 1 to October 31, inclusive, use a minimum of 25 percent by weight of Class F Fly Ash.

The pay limits for concrete pavements with traffic rails extends to the outside edge or back of the traffic rail.

Supply on the job site polyethylene fabric sufficient to cover the section of concrete pavement scheduled for placement in one shift.

If curing operations do not follow the overlay operations closely as directed, due to lack of equipment or personnel, stop the paving operations until these are corrected.

Perform saw cutting as shown on the plans in accordance with Article 360.4.J, “Sawing Joints.” This saw cutting is subsidiary to this item.

Items 360, 420, and 421: All Concrete Items

For the Department’s concrete cylinder split samples, transport the test cylinders to the Houston District Laboratory located at 7721 Washington Avenue in Houston, or to the appropriate Area Laboratory, when applicable. Transporting the test cylinders is subsidiary to the various bid items.

The approach pavement is paid for under the Item, “Concrete Pavement”.

Item 400: Excavation and Backfill for Structures

Plugging existing pipe culverts is subsidiary to the various bid items.

If Recycled Cement Treatment (Type D) is included in the plans, the following additional requirements apply:

1. Use only approved sand, crushed concrete, or salvaged base free from deleterious matter, as aggregate for cement-stabilized backfill

2. Provide crushed concrete or salvaged base backfill material in accordance with the Item, “Cement Treatment (Plant-Mixed)(Type D)” (base or crushed concrete), except the recycled Type D material must not contain Reclaimed Asphalt Pavement (RAP).

3. For backfill material below the spring line of pipes, use cement-stabilized sand rather than Recycled Type D backfill material.

4. For the cement-stabilized sand backfill, use a minimum of 7 percent of hydraulic cement based on the dry weight of backfill material. The cement content for the crushed concrete and salvaged base is specified in the Item, "Cement Treatment (Plant-Mixed) (Type D)".

5. Place and compact the stabilized backfill material using a gradation that provides a dense mass without segregating and is impervious to passing of water.

Item 420: Concrete Structures

Unless otherwise noted, use Class C concrete with an ordinary surface finish for signal, lighting, or sign structure foundations.

Item 432: Riprap

If stone riprap is shown on the plans, crushed concrete may be used.

Item 450: Railing

Add a 3/4-in. longitudinal chamfer to the SSTR railing. Provide a continuous chamfer typically located 6 in. above the final grade.

Item 464: Reinforced Concrete Pipe

Concrete collars are subsidiary to the various bid items.

Rubber gaskets are required for concrete pipe joints except for connections of safety end treatments, driveway culverts, and joints between the existing pipes and extensions.

If performing the work under the Item, "Jacking, Boring, or Tunneling Pipe or Box", use tongue and groove pipe instead of rubber gaskets at these locations.

Open, install, and backfill each section, or a portion of a section, in the same day at locations requiring pipe culverts under existing roadways.

Place the pipe drains across existing roadways half at a time to allow passage of traffic. No trenches may remain open overnight.

Known locations of existing stubouts are shown on the plans, but these stubouts may be in a different position or condition. Delays, inconveniences, or additional work required will not be a basis for additional compensation.

Provide leave-outs or holes in the proposed storm drain structures and pipes for drainage during interim construction. This work is subsidiary to the various bid items.

The flowline elevations of side road structures are based on the proposed ditches. Field verify these elevations and adjust them as necessary to meet the field conditions. Before placing these structures, prepare and submit for approval, the data (revised elevation, alignment, length, etc.) for the adjusted structures.

If groundwater is encountered while installing the storm drain system, install a suitable dewatering system to facilitate construction of the storm drains. The costs for materials and labor required to install and maintain this system are subsidiary to the Item, "Reinforced Concrete Pipe".

Item 465: Manholes and Inlets

If required on the plans, build manholes and inlets to stage 1 construction, cover with temporary pavement, and complete in a later phase of construction. This temporary covering and pavement are subsidiary to the various bid items.

If building manholes or inlets in graded areas, first construct them to an elevation at least 4 in. above the top of the highest entering pipe and cover with a wooden cover. Complete the construction of such manholes or inlets to the finished elevation when completing the grading work for such manholes or inlets. Adjust the final elevation, if required, since this elevation is approximate.

Construct manholes and inlets in paved areas to an elevation so their temporary wooden covers are flush with the surface of the base material.

Do not leave excavations or trenches open overnight.

Items 496: Removing Structures

Do not permit debris resulting from the structure removal or construction activities to enter a natural or manmade waterway such as drainage channels, rivers, streams, bays, etc. Remove debris which falls into such waterways. This work is subsidiary to the Item, "Removing Structures".

Item 502: Barricades, Signs, and Traffic Handling

Use a traffic control plan for handling traffic through the various phases of construction. Follow the phasing sequence unless otherwise agreed upon by the Area Engineer and the Project Manager. Ensure this plan conforms to the latest "Texas Manual on Uniform Traffic Control Devices for Streets and Highways" and the latest Barricade and Construction (BC) Standard Sheets.

Submit changes to the traffic control plan to the Area Engineer. Provide a layout showing the construction phasing, signs, striping, and signalizations for changes to the original traffic control plan.

Furnish and maintain the barricades and warning signs, including the necessary temporary and portable traffic control devices, during the various phases of construction. Place and construct these barricades and warning signs in accordance with the latest "Texas Manual on Uniform Traffic Control Devices for Streets and Highways" for typical construction layouts.

Cover work zone signs when work related to the signs is not in progress, or when any hazard related to the signs no longer exists.

Erect temporary signs when exit ramps are closed or moved to new locations during construction.

Keep the delineation devices, signs, and pavement markings clean. This work is subsidiary to the Item, "Barricades, Signs, and Traffic Handling".

If a section is not complete before the end of the workday, pull back the base material to the existing pavement edge on a 6H: 1V slope. Edge drop-offs during the hours of darkness are not permitted.

Before detouring traffic onto the mainlane shoulders, remove dirt, debris, vegetation, and other deleterious material from the surface of the shoulders. Appropriately sign the detour in an approved manner. This work is subsidiary to the various bid items.

Coordinate and correspond with the Department through the Area Engineer or representative. Post static message boards a minimum of 7 days in advance of major traffic pattern changes such as lane closures, ramp closures, and roadway closures. The Area Engineer will notify the public information office a minimum of 7 days in advance of major traffic pattern changes.

Place the static message boards as shown on the plans a minimum of 7 days before major traffic pattern changes, as described above.

Furnish the static message boards shown on the traffic control plan or those necessary for major traffic pattern changes. The static message board standard is included in the plans. The static message board is subsidiary to the Item, "Barricades, Signs, and Traffic Handling".

Cover or remove the permanent signs and construction signs that are incorrect or that do not apply to the current situation for a particular phase.

Replace the overhead signs, informational signs, and exit signs to be removed, with temporary signs providing the correct information to the traveling public. Size the replacement signs and include them in the traffic control plan.

Do not mount signs on drums or barricades, except those listed in the latest Barricades and Construction standard sheets.

Use traffic cones for daytime work only. Replace the cones with plastic drums during nighttime hours.

Place positive barriers to protect drop-off conditions greater than 2 ft. within the clear zone that remain overnight.

Use shadow vehicles with Truck Mounted Attenuators (TMA) for lane closures during construction. Do not reduce the existing number of lanes open to traffic except as shown on the following time schedule:

One Lane Closure

Day	Daytime Closure Hours	Nighttime Closure Hours	Restricted Hours Subject to Lane Assessment Fee
Monday	NONE	7:00 PM - 5:00 AM	5:00 AM - 7:00 PM
Tuesday	NONE	7:00 PM - 5:00 AM	5:00 AM - 7:00 PM
Wednesday	NONE	7:00 PM - 5:00 AM	5:00 AM - 7:00 PM
Thursday	NONE	7:00 PM - 5:00 AM	5:00 AM - 7:00 PM
Friday	NONE	7:00 PM - 5:00 AM	5:00 AM - 7:00 PM
Saturday	NONE	8:00 PM - 5:00 AM	5:00 AM - 8:00 PM
Sunday	NONE	8:00 PM - 5:00 AM	5:00 AM - 8:00 PM

Two Lane Closure

Day	Daytime Closure Hours	Nighttime Closure Hours	Restricted Hours Subject to Lane Assessment Fee
Monday	NONE	10:00 PM - 5:00 AM	5:00 AM - 10:00 PM
Tuesday	NONE	10:00 PM - 5:00 AM	5:00 AM - 10:00 PM
Wednesday	NONE	10:00 PM - 5:00 AM	5:00 AM - 10:00 PM
Thursday	NONE	10:00 PM - 5:00 AM	5:00 AM - 10:00 PM
Friday	NONE	10:00 PM - 5:00 AM	5:00 AM - 10:00 PM
Saturday	NONE	10:00 PM - 5:00 AM	5:00 AM - 10:00 PM
Sunday	NONE	10:00 PM - 5:00 AM	5:00 AM - 10:00 PM

Full Closure (Roadway / Ramps / Direct Connector)

Day	Daytime Closure Hours	Nighttime Closure Hours	Restricted Hours Subject to Lane Assessment Fee
Monday	NONE	10:00 PM - 5:00 AM	5:00 AM - 10:00 PM
Tuesday	NONE	10:00 PM - 5:00 AM	5:00 AM - 10:00 PM
Wednesday	NONE	10:00 PM - 5:00 AM	5:00 AM - 10:00 PM
Thursday	NONE	10:00 PM - 5:00 AM	5:00 AM - 10:00 PM
Friday	NONE	10:00 PM - 5:00 AM	5:00 AM - 10:00 PM
Saturday	NONE	10:00 PM - 5:00 AM	5:00 AM - 10:00 PM
Sunday	NONE	10:00 PM - 5:00 AM	5:00 AM - 10:00 PM

The above times are approved for the traffic control conditions listed. The Area Engineer may approve other closure times if traffic counts warrant. The Area Engineer may reduce the above times for special events.

Provide full-time, off-duty, uniformed, certified peace officers, as part of traffic control operations. The peace officers must be able to show proof of certification by the Texas Commission on Law Enforcement Officers Standards. The cost of the officers is paid for on a force account basis.

Provide 2 portable changeable message signs as shown on the Traffic Control Plan and the special specification item "Portable Changeable Message Signs". These changeable message signs are subsidiary to the Item, "Barricades, Signs, and Traffic Handling".

Minimize the number of working days for street closures. The following table lists the maximum number of working days allowed for each street closure. The closure period for each intersection occurs only during the phase when constructing that street, unless otherwise directed. Reopen the street within the number of working days allowed; otherwise the Engineer may cease construction activities not affiliated with reopening the closed street, until it fully reopens to the traveling public. Time charges will not be suspended nor increased to compensate for this occurrence.

Street Name	Number of Working Days Allowed for Closure
EB ENTRANCE RAMP AT MONMOUTH	*42 (PH 2 STEP 2)*

Item 504: Field Office and Laboratory

Furnish one Type B structure for the field office with (3) interconnected rooms and one Type A structure for the laboratory. Ensure the windows for both structures have burglar bars.

Provide a Type E field office meeting the requirements of a Type C structure. Ensure this is a single structure with a minimum of 500 sq. ft. of floor space and 3 rooms. Provide the structure with the following facilities (The cost of providing these items is subsidiary to this Item.):

1. Three desks with 3 swivel chairs, two 5-drawer file cabinets and 3 straight back chairs.
2. Telephone service and equipment consisting of a minimum of one telephone with one extension. Include the call-waiting feature in the service.
3. Potable water with an electric water cooler, a cup dispenser, and cups.
4. Adequate heating, air conditioning, lighting, and a sufficient number of electrical outlets.

5. A commercially available toilet or equivalent facility for the field office and each laboratory.
6. A suitable copy machine for the field office.
7. One computer (laptop or desktop), printer, and Internet service (Internet service must be provided on a line separate from the required phone line unless providing a Digital Service Line (DSL)). For computer equipment, refer to DMS-10101, "Computer Equipment".

Furnish 2 additional computers (1 Desktop and 1 Laptop) that can simultaneously access the Citrix Metaframe server at the Department's Austin Headquarters. Use an Internet Service Provider (ISP) that can provide more than one computer access to the ISP account at one time. Do this by supplying either a single DSL account for computers or one dial-up account per computer.

Provide basic cellular telephone service and a portable cellular telephone for the Engineer's use for the duration of the project. This item is subsidiary to the various bid items.

Provide a fenced enclosure approximately 100 ft. by 200 ft. Provide an appropriate parking area covered with a suitable base material and with a minimum of 2 security lights, one on each end of the lot. Cost of the work and materials to provide the enclosure are subsidiary to the various bid items.

Piped in water to the Engineer's building will not be required, but furnish water for curing concrete test specimens.

Furnish a Type D structure for the asphalt mix control laboratory for the Engineer's exclusive use. In addition to the requirements of this Item, "Field Office and Laboratory", ensure this structure has a minimum height of 8 ft. Also ensure it has a minimum of 400 sq. ft. of gross floor area suitable for permanently located asphalt plants or 200 sq. ft. for temporarily located asphalt plants serving one project. Partition the floor area into a minimum of 2 interconnected rooms, and provide each room with an exterior door and a minimum of 2 windows. Construct the floor of sufficient strength to support the testing equipment and with an impervious covering.

Adequately air condition the Type D structure and furnish it with a minimum of one desk, 3 chairs, one file cabinet, a telephone, and one built-in equipment-storage cabinet suitable for storing nuclear equipment. Ensure the cabinet is a minimum of 3 ft. wide by 2 ft. deep by 3 ft. high and has a secure lock. Provide the structure with a 240-volt electrical service entrance. Use a licensed electrician to determine the service size and service entrance conductors. Provide a minimum service of four 120-volt circuits with 20 amp breakers, and a maximum of 2 grounded convenience outlets per circuit and a minimum of two 220-volt ovens with vents to the outside. Provide a structure with a minimum of 2 convenience outlets per wall and a utility sink with an adequate, clean potable water supply for testing. Do not use space heaters to heat the structure. Use support blocks for the portable structures, tie them down, and securely attach them to the ground.

Determine the asphalt content by the ignition method and meet the requirements of Section 504.2.B.4.b., "Asphalt Content by Ignition Method" except provide a NEMA 6-50R (204/240 volt, 50 A) outlet within 2.25 ft. of the ignition oven location.

If an asphalt mix plant is located at the project site, provide a Type D structure with the dimensions of a Type C structure, at the project site to perform the asphalt mix quality control tests.

If a commercial source is used for the asphalt mix, provide a Type D structure with the dimensions of a Type C structure, at the commercial source site to perform the asphalt mix quality control tests.

The above requirements are subsidiary to the various bid items.

Assume ownership of temporary chain link security fences.

Item 512: Portable Concrete Traffic Barrier

Transport the Concrete Traffic Barriers (CTB) used for traffic handling from the Department stockpile located at IH 610 (South) and Long Drive or at IH10 (East) and Oates Road.

After completing the project, return the Concrete Traffic Barriers (CTB) used for traffic handling, to the Department stockpile located at IH 610 (South) and Long Drive. Do not return any CTB to the IH 10 (East) and Oates Road location.

After completing the project, return the associated CTB connecting hardware to the area office or as directed.

If placing the concrete traffic barrier on pre-stressed concrete box beams with exposed reinforcing steel, protect the reinforcing steel by supporting the concrete traffic barrier on 4 in. by 4 in. timbers. Place the timbers transversely and space them on 4 ft. centers. The cost of the labor and materials to perform this work are subsidiary to the Item, “Portable Concrete Traffic Barrier”.

Item 514: Permanent Concrete Traffic Barrier

Add a 3/4-in. longitudinal chamfer to the Single Slope Concrete Barrier (SSCB) railing. Provide a continuous chamfer typically located 6 in. above the final grade.

Item 540: Metal Beam Guard Fence

Painting the timber posts is not required.

Use timber posts for galvanized steel metal beam guard fence, except for anchorage at turned down ends. Turn down free ends of galvanized steel metal beam guard fence unless otherwise shown on the plans.

Furnish and install wood blocks between the rail elements and the timber posts as detailed on the plans. These block-outs are subsidiary to this item.

The quantity of the metal beam guard fence is subject to change.

Provide a mow strip as shown on the plans, at metal beam guard fence locations. This work is subsidiary to this item.

Item 542: Removing Metal Beam Guard Fence

Remove and assume ownership of unsalvageable metal beam guard fence rail elements and posts.

Replace removed wood posts which are unusable because of damage by the Contractor, at no expense to the Department.

Item 545: Crash Cushion Attenuators

After completing the project, return remaining unused crash cushion attenuators units to the Area Office Maintenance yard or as directed, at no cost to the Department.

Item 610: Roadway Illumination Assemblies

The cost of providing the electrical conductor in the pole foundation or in the pole base to make connections is subsidiary to the roadway illumination assembly. The quantity for payment is the surface distance between locations.

All roadway illumination assemblies shall be from the pre-qualified Materials Producers List-Roadway Illumination and Electrical Supplies located at link:
http://www.dot.state.tx.us/business/producer_list.htm

Item 613: High Mast Illumination Poles

Place the metal beam guard fence before placing the high mast foundation.

Before erecting the high mast poles, notify the Engineer a minimum of 3 working days in advance for scheduling the inspection of each assembled high mast pole and high mast assembly.

Place high mast illumination poles in locations so that the light mounting and support assembly can be lowered and maintained from ground level without interfering with bridges or retaining walls. Notify the Engineer of any such conflicts.

Provide anchor bolts for high mast illumination poles in accordance with the Item 449, "Anchor Bolts" from Texas Standard Specifications 2004.

Item 614: High Mast Illumination Assemblies

Erect and place in operation high mast illumination poles before removing existing illumination facilities.

Refer to current HMID Sheets for requirements and specifications for this section.

Item 616: Performance Testing of Lighting Systems

The illumination plans provide for a complete illumination system installed, connected, tested, and ready for operation.

Permit the electrical work to be inspected by the Department. Complying with the provisions and requirements of the City electrical ordinance is not required. The City is not a party to this contract with this inspection.

Adjust the high mast luminaires per the manufacturer's recommendations. Submit the photometrics and obtain approval before placing the luminaires in service. Initially adjust the luminaires during the lamp installation procedure.

After satisfactory completion of tests, place the new lighting fixtures in operation. Final acceptance will be made after the fixtures operate satisfactorily for a minimum period of 14 days. The 14-day test period is included in the allowed working days.

Assume responsibility for the new lighting fixtures during the test period. Make adjustments or repairs as required and repair defects or damage at no expense to the Department.

Pay for the installation charge from the electrical service provider, but not for the electrical energy consumed by the fixtures during the 14-day test period.

Item 618: Conduit
Item 620: Electrical Conductors
Item 628: Electrical Services

If the specifications for electrical items require UL-listed products, this means UL-listed or CSA-listed.

Item 618: Conduit

Unless otherwise noted on the plans, place conduit runs behind curbs at all locations where curbs exist.

If placing the conduit under existing pavement to reach the service poles, bore the conduit in place and extend it a minimum distance of 5 ft. beyond the edge of shoulder or the back of curb.

Construct bore pits a minimum of 5 ft. from the edge of the base or pavement. Close the bore pit holes overnight. Consider payment for bored conduit as the width of the roadway plus five (5) feet on each side of the roadway.

Provide Liquid-Tight Flexible Metal Conduit (LTFM) if the plans refer to flexible metal conduit. Do not use flexible metal conduit.

Use only certified persons to perform electrical work as per Item 7.15 and Special Provision 007-297.

Unless shown on the plans, install underground conduit a minimum of 24 in. deep. Install the conduit in accordance with the latest National Electrical Code (NEC) and applicable Department standard sheets. Place conduit under driveways or roadways a minimum of 24 in. below the pavement surface.

Use schedule 80 PVC conduit to house all conductor runs under paved riprap, roadway, or driveways unless shown otherwise in the plans.

If using casing to place bored conduit, the casing is subsidiary to the conduit.

All exposed conduit must be Rigid Metal Conduit (RMC).

Prior to backfilling conduit trenches, place a detectable underground metalized Mylar marking tape above the conduit and concrete encasement. Imprint the marking tape with “TxDOT CONDUIT AND FIBER OPTIC CABLE SYSTEM CALL (713) 802-5604 BEFORE PROCEEDING” every 18 inches. Ensure the marking tape extends continuously into the ground box at each end of all conduit runs. Consider the supplying and installation of the marking tapes incidental to the various bid items.

Furnish rigid metal conduit for underground conduit bends of 45 degrees or greater in all conduit systems, including bends into ground boxes and foundations. Where the rigid metal conduit is exposed at any point and where rigid metal conduit extends into ground boxes, bond the metal conduit to the grounding conductor with grounding type bushings or by other approved, UL-listed grounding connectors approved by the Engineer. Rigid metal bends are subsidiary to the conduit system.

All conduit elbows and rigid metal extensions required when installing PVC conduit systems, are subsidiary to the various bid items.

Install a continuous bare or green insulated copper wire No. 8 AWG or larger in every conduit throughout the electrical system in accordance to the Electrical Detail Standard Sheets, and the latest edition of the National Electrical Code.

Pull conductors in the PVC conduit only with a nonmetallic pull rope.

Remove conductor and conduit to be abandoned to 1 ft. below the ground level. This work is subsidiary to the various bid items.

Do not use cast iron junction boxes in concrete traffic barriers and single slope traffic barriers. Use polymer concrete junction boxes instead of the cast iron junction boxes shown on the culvert standards. Mount the junction boxes flush (+ 0", - ½") with concrete surface of concrete barrier.

Use materials from prequalified producers as shown on the Construction Division (CST) of the Texas Department of Transportation (TxDOT) material producers list. Use the following website to view this list: http://www.dot.state.tx.us/business/materialproducerlist.htm

The polymer concrete barrier box will not be paid for separately, but will be considered subsidiary to Item 618, "Conduit".

When backfilling bore pits, ensure that the conduit is not damaged during installation or due to settling backfill material. Compact select backfill in 3 equal lifts to the bottom of the conduit; or if using sand, place it 2 in. above the conduit. Ensure backfill density is equal to that of the existing soil. Prevent material from entering the conduit.

Item 620: Electrical Conductors

Test each wire of each cable or conductor after installation. Incomplete circuits or damage to the wire or the cable are cause for immediate rejection of the entire cable being tested. Remove and replace the entire cable at no expense to the Department. Also test the replacement cable after installation.

When pulling cables or conductors through the conduit, do not exceed the manufacturer's recommended pulling tensions. Lubricate the cables or conductors with a lubricant recommended by the cable manufacturer.

Ensure that circuits test clear of faults, grounds, and open circuits.

Split bolt connectors are allowed only for splices on the grounding conductors.

Provide breakaway electrical connectors for breakaway poles from Pre-qualified Materials Producers List-Roadway Illumination and Electrical Supplies located at link: http://www.dot.state.tx.us/business/producer_list.htm.

Use only certified persons to perform electrical work as per item 7.15 and Special Provision 007-297.

Item 624: Ground Boxes

The ground box locations are approximate. Alternate ground box locations may be used as directed, to avoid placing in sidewalks or driveways.

Bond the ground box cover and ground conductors to a ground rod located in the ground box and to the system ground.

Provide all personnel and equipment necessary to remove ground box lids for inspection. Provide this assistance within 24 hours of notification.

Item 628: Electrical Services

Furnish a UL-listed meter can for electrical service poles. Furnish a size and style of meter can in accordance with the requirements of the local electrical service provider. This work is incidental to the Item, "Electrical Services".

Verify and coordinate the electrical service location with the engineering section of the appropriate utility district or company.

Identify the electrical service pole with an address number assigned by the Utility Service Provider. Provide 2-in. numerals visible from the highway. Provide numbers cut out aluminum figures nailed to wood poles or painted figures on steel poles or service cabinets.

Provide the circuit breakers rated at 250 volts for the 120/240-volt circuits and at 600 volts for the 240/480-volt circuits.

Item 636: Aluminum Signs

Include aluminum route markers, exit only panels, routing signs, and other special panels attached to guide signs in the unit bid price for the parent guide sign material.

The locations of sign panels on overhead structures are approximate. Verify in the field before installing.

When design details are not shown on the plans, provide signs and arrows conforming to the latest "Standard Highway Sign Designs for Texas" manual.

Item 644: Small Roadside Sign Supports and Assemblies

Sign locations shown on the plans are approximate. Before placing them, obtain approval of and then stake the exact locations for these signs.

Use the Texas Universal Triangular Slip Base with the concrete foundation for small ground mounted signs, unless otherwise shown in the plans.

When design details are not shown on the plans, provide signs and arrows conforming to the latest "Standard Highway Sign Designs for Texas" manual.

Install the materials, except for sign plaques for speed limit signs. The Area Engineer will request a speed study through the Director of Transportation Operations, to determine the legal

speeds to be posted. This request will be made as soon as possible after the roadway opens to traffic. The Area Engineer will coordinate the fabrication of speed limit sign plaques with the Houston District Sign Shop. After fabricating, the sign shop will send the sign plaques to the Area Engineer for installation.

Assume ownership of the removed existing signs.

Locations of the relocated signs are approximate. Before placing them, obtain approval of and then stake the exact locations for these signs.

Replace existing signs that are damaged during relocation at no expense to the Department.

Item 647: Large Roadside Sign Supports and Assemblies

Locations of the relocated signs are approximate. Before placing them, obtain approval of and then stake the exact locations for these signs.

Replace existing signs that are damaged during relocation at no expense to the Department.

Assume ownership of the removed existing signs.

Item 650: Overhead Sign Supports

If sign panels mounted on an overhead sign support face the same direction of traffic, keep the bottoms of the sign panels in the same horizontal plane, unless otherwise shown in the plans.

There is no additional reimbursement for blocking or shims for fits of alignment.

Mill test reports are not required for miscellaneous secondary structural items, or hardware.

Use the existing panel supports if removing existing guide signs and placing new panels of different sizes at the same location. Extend the supports, if needed. If the supports extend over the top of the panel, cut off the supports at the top of the panel or the top of the truss, whichever is higher.

Assume ownership of removed existing overhead sign supports and other removed materials.

Item 656: Foundations for Traffic Control Devices

Using ready mix concrete for sign foundations is optional.

Item 662: Work Zone Pavement Markings

At the end of each day's work, mark roadways that remain open to traffic during construction operations with standard pavement markings, in accordance with the latest "Texas Manual on Uniform Traffic Control Devices for Streets and Highways".

Using raised markers for removable work zone pavement markings on final concrete surfaces is optional.

For transition lane lines and detour lane lines, use raised pavement markers as shown for solid lines on the latest Barricade and Construction standard sheet for "Work Zone Pavement Marking Details".

Item 662: Work Zone Pavement Markings
Item 668: Prefabricated Pavement Markings
Item 6951: Prefabricated Pavement Markings with Warranty
Item 6473: Multipolymer Pavement Markings

Use Type III glass beads multipolymer pavement markings.

Use a thickness of 0.022 in. (22 mils) for multipolymer pavement markings, measured to the top of the multipolymer, not including the exposed glass beads.

For roadways with asphalt surfaces to be striped with work zone or permanent thermoplastic markings, the Contractor has the option to apply paint and beads markings for a maximum 30-day period until placing the thermoplastic markings, or until starting the succeeding phase of work on the striped area. Maintain the paint and beads markings, at no expense to the Department, until placing the thermoplastic markings or starting the succeeding phase of work on the striped area. The work zone markings, whether paint and beads or thermoplastic, are paid under the Item, "Work Zone Pavement Markings" and the markings are paid for only once for the given phase of construction.

If using paint and bead markings as described above, purchase the traffic paint from the open market.

Establish the alignment and layout for work zone striping and permanent striping.

Stripe roadways before opening them to traffic.

Place pavement markings under these items in accordance with details shown on the plans, the latest "Texas Manual on Uniform Traffic Control Devices for Streets and Highways," or as directed.

Item 672: Raised Pavement Markers

If other operations are complete on the project and if the curing time period is not yet elapsed, the contract time will be suspended until the curing is done.

Before placing the raised pavement markers on concrete pavement, blast clean the surface using an abrasive-blasting medium. This work is subsidiary to the Item, "Raised Pavement Markers."

Provide epoxy adhesive that is machine-mixed or nozzle-mixed and dispensed. Equip the machine or nozzle with a mechanism to ensure positive mix measurement control.

Item 677: Eliminating Existing Pavement Markings and Markers

Remove existing pavement markings on concrete or asphalt surfaces by flail milling or as directed.

Item 678: Pavement Surface Preparation for Markings

Do not blast clean asphalt concrete pavement. Clean asphalt concrete pavement as required under the applicable specifications or as directed.

On new concrete pavement or on existing concrete pavement when placing a new stripe on a new location, remove all curing compounds and contamination from the pavement surface by flail milling or as directed. In addition, air blast the surface with compressed air just prior to placing the new stripe.

On existing concrete pavement when placing a new stripe on an existing location, after removing the existing stripe under Item 677, "Eliminating Existing Pavement Markings and Markers," air blast the surface with compressed air just prior to placing the new stripe.

Perform all air blasting with a compressor that is capable of generating air at a minimum of 100 psi using 5/16 in. or larger hosing for the air blast (equipment should have sufficient capacity to remove contaminants but not damage the pavement surface). Do not clean concrete pavement by grinding.

Item 730: Roadside Mowing
Item 734: Litter Removal
Item 738: Cleaning and Sweeping Highways

Mow areas of existing vegetation, collect and dispose of litter, and sweep the roadway within the project limits according to the following chart for the duration of the project or as directed. This work is paid for under their respective bid items.

Roadside Mowing	Litter Removal	Cleaning and Sweeping Highways
5 cycles	*5* cycles	*17 cycles*

Item 6008: Shifting or Removing Existing Overhead Signs

Assume ownership of the removed sign panels.

Item 6010: Communication Cable

Do not place gopher-resistant cable in the conduit.

Jelly-fill each end of the communications cable that is exposed to elements during storage or after installing.

Ensure each communication cable run is continuous without splices from controller to controller.

Assume responsibility for the signal carrying capability and performance of the cable. Install each wire with a lightning protection device unless otherwise noted. Ground in accordance with the manufacturer's recommendation.

Item 6266: Video Imaging Vehicle Detection System

Furnish the cable to operate the Video Imaging Vehicle Detection System (VIVDS) in accordance with the manufacturer's recommendations or purchase it from the same manufacturer as the VIVDS equipment.

Supply VIVDS equipment that can process up to a maximum of 6 camera inputs per intersection. Additional equipment to accommodate up to 6 camera inputs is subsidiary to the various bid items. No extra compensation will be allowed for additional equipment needed to make the VIVDS equipment fully operational under this item.

Supply a laptop computer and a video monitor as described in this Special Specification Item.

Detector zone video taping for this project will not be required.

Special Specification 6266 Video Imaging Vehicle Detection System

Specification Items	Description	Not Required	Required	State Supplied
1	**VIVDS Configuration**		**X**	
	Cameras, Connectors and Mounting Hardware		**X**	
	VIVDS Processor Unit		**X**	
	Field Setup Computer (1 Required) (Laptop)	**X**		
	Field Setup Video Monitor (1 EA. Controller)		**X**	
	Field Communications Link		**X**	
3	**Functional Capabilities**			
	System Software		**X**	
4	**Vehicle Detection**			
	Detection Zone Video Taping	**X**		
5	**VIVDS Processor Unit**			

	Provide both TS1 and TS2 Interfaces		**X**	
	12 Volt/5 Amp Power Supply		**X**	
6	**Camera Assembly**			
	Camera Interface Panel		**X**	
7	**Field Communications Link**			
	Lightning and Transient Surge Suppression Devices		**X**	
9	**Temporary Use and Retesting**		**X**	
10	**Operation from Central Control**	**X**		
	Telephone Interconnect	**X**		
	ISDN Interconnect	**X**		
11	**Installation and Training**		**X**	

All other items not specifically listed in this table are required. When shown in the plans, remove and deliver all temporary VIVDS equipment to the Department's Signal Shop, 702 FM 1959, Houston, Texas, or as directed by the Departments' Engineer.

Basis of Estimate

Item	Description	Limit and Rate	Unit
260	Lime Treatment (Road-Mixed) For materials used as subgrade • Lime(HYD,COM or QK)(SLRY) or QK(DRY)	 6 % by weight based on 100 Lb. / Cu. Ft. subgrade	TON
292	Asphalt Treatment (Plant-Mixed) • Asphalt • Aggregate	110 Lb. / Sq. Yd.-In. 5 % by weight 95 % by weight	TON
341	Dense-Graded Hot Mix Asphalt (QC/QA) • Asphalt • Aggregate	110 Lb. / Sq. Yd.-In. 6 % by weight 94 % by weight	TON

* For Contractor's information only (non-pay item).

CONTROL : 0508-01-292
PROJECT : IM 0107(413)
HIGHWAY : IH 10
COUNTY : HARRIS

TEXAS DEPARTMENT OF TRANSPORTATION

GOVERNING SPECIFICATIONS AND SPECIAL PROVISIONS

ALL SPECIFICATIONS AND SPECIAL PROVISIONS APPLICABLE TO THIS PROJECT ARE IDENTIFIED AS FOLLOWS:

STANDARD SPECIFICATIONS: ADOPTED BY THE TEXAS DEPARTMENT OF TRANSPORTATION JUNE 1, 2004. STANDARD SPECIFICATIONS ARE INCORPORATED INTO THE CONTRACT BY REFERENCE.

ITEMS 1 TO 9 INCL., GENERAL REQUIREMENTS AND COVENANTS
ITEM 100 PREPARING RIGHT OF WAY (103)
ITEM 104 REMOVING CONCRETE
ITEM 105 REMOVING STABILIZED BASE AND ASPHALT PAVEMENT
ITEM 110 EXCAVATION (132)
ITEM 132 EMBANKMENT (100)(204)(210)(216)(400)
ITEM 161 COMPOST (160)
ITEM 162 SODDING FOR EROSION CONTROL (166)(168)
ITEM 164 SEEDING FOR EROSION CONTROL (162)(166)(168)
ITEM 166 FERTILIZER
ITEM 168 VEGETATIVE WATERING
ITEM 170 IRRIGATION SYSTEM (402)(403)
ITEM 260 LIME TREATMENT (ROAD-MIXED) (105)(132)(204)(210)(300)(310)(520)
ITEM 276 CEMENT TREATMENT (PLANT-MIXED) (204)(210)(216)(247)(300)(310)(520)
ITEM 292 ASPHALT TREATMENT (PLANT-MIXED) (300)(301)(320)(520)(585)
ITEM 305 SALVAGING, HAULING, AND STOCKPILING RECLAIMABLE ASPHALT PAVEMENT
ITEM 341 DENSE-GRADED HOT-MIX ASPHALT (QC/QA) (210)(300)(301)(320)(520)(585)
ITEM 360 CONCRETE PAVEMENT (300)(420)(421)(438)(440)(529)(585)
ITEM 368 CONCRETE PAVEMENT TERMINALS (247)(260)(276)(292)(300)(349)(360)(400)(420)(421)(438)(440)(442)
ITEM 400 EXCAVATION AND BACKFILL FOR STRUCTURES (132)(401)(420)(421)
ITEM 402 TRENCH EXCAVATION PROTECTION
ITEM 403 TEMPORARY SPECIAL SHORING (423)
ITEM 416 DRILLED SHAFT FOUNDATIONS (420)(421)(440)(448)
ITEM 420 CONCRETE STRUCTURES (400)(404)(421)(426)(427)(438)(440)

(441)(448)
ITEM 432 RIPRAP (420)(421)(427)(440)
ITEM 442 METAL FOR STRUCTURES (441)(445)(446)(447)(448)(449)
ITEM 450 RAILING (420)(421)(440)(446)(540)
ITEM 462 CONCRETE BOX CULVERTS AND STORM DRAINS (400)(420)(421)(424)(440)(464)
ITEM 464 REINFORCED CONCRETE PIPE (400)
ITEM 465 MANHOLES AND INLETS (400)(420)(421)(440)(471)
ITEM 479 ADJUSTING MANHOLES AND INLETS (400)(421)(465)
ITEM 496 REMOVING STRUCTURES
ITEM 500 MOBILIZATION
ITEM 502 BARRICADES, SIGNS, AND TRAFFIC HANDLING (6078)
ITEM 504 FIELD OFFICE AND LABORATORY (5010)
ITEM 506 TEMPORARY EROSION, SEDIMENTATION, AND ENVIRONMENTAL CONTROLS (432)(556)
ITEM 512 PORTABLE CONCRETE TRAFFIC BARRIER (420)(421)(424)(440)(442)
ITEM 514 PERMANENT CONCRETE TRAFFIC BARRIER (400)(416)(420)(421)(424)(440)(442)(448)
ITEM 540 METAL BEAM GUARD FENCE (421)(445)(529)(542)(544)
ITEM 542 REMOVING METAL BEAM GUARD FENCE
ITEM 544 GUARDRAIL END TREATMENTS
ITEM 545 CRASH CUSHION ATTENUATORS (421)
ITEM 610 ROADWAY ILLUMINATION ASSEMBLIES (421)(441)(442)(445)(446)(449)(616)(620)
ITEM 613 HIGH MAST ILLUMINATION POLES (421)(441)(442)(445)(449)(618)
ITEM 614 HIGH MAST ILLUMINATION ASSEMBLIES (441)(442)(445)(446)(616)(620)
ITEM 618 CONDUIT (400)(445)(476)(622)
ITEM 620 ELECTRICAL CONDUCTORS
ITEM 624 GROUND BOXES (421)(440)
ITEM 628 ELECTRICAL SERVICES (441)(445)(449)(618)(620)(627)(656)
ITEM 636 ALUMINUM SIGNS (643)
ITEM 644 SMALL ROADSIDE SIGN SUPPORTS AND ASSEMBLIES (421)(440)(441)(442)(445)(634)(636)(643)(656)
ITEM 647 LARGE ROADSIDE SIGN SUPPORTS AND ASSEMBLIES (421)(440)(441)(442)(445)(643)
ITEM 650 OVERHEAD SIGN SUPPORTS (416)(420)(421)(441)(442)(445)(449)(618)
ITEM 658 DELINEATOR AND OBJECT MARKER ASSEMBLIES (445)
ITEM 662 WORK ZONE PAVEMENT MARKINGS (666)(668)(672)(677)
ITEM 668 PREFABRICATED PAVEMENT MARKINGS
ITEM 672 RAISED PAVEMENT MARKERS (677)(678)
ITEM 677 ELIMINATING EXISTING PAVEMENT MARKINGS AND MARKERS (300)(302)(316)
ITEM 678 PAVEMENT SURFACE PREPARATION FOR MARKINGS (677)
ITEM 684 TRAFFIC SIGNAL CABLES
ITEM 687 PEDESTAL POLE ASSEMBLIES (445)(449)(656)
ITEM 730 ROADSIDE MOWING
ITEM 734 LITTER REMOVAL
ITEM 738 CLEANING AND SWEEPING HIGHWAYS

SPECIAL PROVISIONS: SPECIAL PROVISIONS WILL GOVERN AND TAKE
---------- PRECEDENCE OVER THE SPECIFICATIONS ENUMERATED
HEREON WHEREVER IN CONFLICT THEREWITH.

REQUIRED CONTRACT PROVISIONS, FEDERAL-AID CONSTRUCTION CONTRACTS
(FORM FHWA 1273, MARCH, 1994)
WAGE RATES
SPECIAL PROVISION "SCHEDULE OF LIQUIDATED DAMAGES" (000--1002)
SPECIAL PROVISION "PARTNERING" (000---002)
SPECIAL PROVISION "NOTICE TO ALL BIDDERS" (000---003)
SPECIAL PROVISION "NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO
ENSURE EQUAL EMPLOYMENT OPPORTUNITY" (000---004)
SPECIAL PROVISION "DISADVANTAGED BUSINESS ENTERPRISE IN FEDERAL-AID
CONSTRUCTION" (000---461)
SPECIAL PROVISION "STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY
CONSTRUCTION CONTRACT SPECIFICATIONS" (000---006)
SPECIAL PROVISION "ON-THE-JOB TRAINING PROGRAM" (000--1001)
SPECIAL PROVISION "CERTIFICATION OF NONDISCRIMINATION IN EMPLOYMENT"
(000---009)
SPECIAL PROVISION "DEPARTMENT DIVISION MAILING AND PHYSICAL ADDRESS"
(000---011)
SPECIAL PROVISION TO ITEM 1 (001---005)
SPECIAL PROVISIONS TO ITEM 3 (003---015)(003---020)
SPECIAL PROVISIONS TO ITEM 4 (004---006)(004---008)
SPECIAL PROVISION TO ITEM 5 (005---004)
SPECIAL PROVISION TO ITEM 6 (006---030)
SPECIAL PROVISIONS TO ITEM 7 (007---213)(007---297)
SPECIAL PROVISIONS TO ITEM 8 (008---013)(008---050)(008---070)
(008---081)
SPECIAL PROVISION TO ITEM 9 (009---009)
SPECIAL PROVISION TO ITEM 100 (100---001)
SPECIAL PROVISION TO ITEM 132 (132---002)
SPECIAL PROVISION TO ITEM 161 (161---001)
SPECIAL PROVISION TO ITEM 164 (164---002)
SPECIAL PROVISION TO ITEM 170 (170---001)
SPECIAL PROVISION TO ITEM 260 (260---001)
SPECIAL PROVISION TO ITEM 360 (360---003)
SPECIAL PROVISION TO ITEM 368 (368---001)
SPECIAL PROVISION TO ITEM 421 (421---024)
SPECIAL PROVISION TO ITEM 440 (440---001)
SPECIAL PROVISION TO ITEM 441 (441---002)
SPECIAL PROVISION TO ITEM 465 (465---001)
SPECIAL PROVISION TO ITEM 500 (500---002)
SPECIAL PROVISION TO ITEM 502 (502---022)
SPECIAL PROVISION TO ITEM 506 (506---010)
SPECIAL PROVISION TO ITEM 512 (512---001)
SPECIAL PROVISION TO ITEM 514 (514---001)
SPECIAL PROVISION TO ITEM 620 (620---001)
SPECIAL PROVISION TO ITEM 730 (730---009)
SPECIAL PROVISION TO SPECIAL SPECIFICATION ITEM 6473 (6473--001)

SPECIAL SPECIFICATIONS:

ITEM 4309 TRENCH DRAIN (104)(420)(440)
ITEM 5010 TRANSPORTABLE CELLULAR TELEPHONES
ITEM 5050 PORTABLE CONCRETE TRAFFIC BARRIER CONNECTION HARDWARE
ITEM 6008 SHIFTING OR REMOVING EXISTING OVERHEAD SIGNS (636)
ITEM 6010 COMMUNICATION CABLE
ITEM 6014 FIBER OPTIC CABLE
ITEM 6078 PORTABLE CHANGEABLE MESSAGE SIGNS
ITEM 6086 PREPARATION OF EXISTING CONDUITS, GROUND BOXES, OR MANHOLES (465)(618)(624)
ITEM 6473 MULTIPOLYMER PAVEMENT MARKING S (MPM) (677)(678)(6629)
ITEM 6629 MOBILE RETROREFLECTIVITY DATA COLLECTION FOR PAVEMENT MARKINGS
ITEM 6945 RADAR VEHICLE SENSING DEVICE (RVSD)
ITEM 6951 LONGITUDINAL PREFABRICATED PAVEMENT MARKINGS (PPM) WITH WARRANTY (677)(6629)

GENERAL: THE ABOVE-LISTED SPECIFICATION ITEMS ARE THOSE UNDER WHICH PAYMENT IS TO BE MADE. THESE, TOGETHER WITH SUCH OTHER PERTINENT ITEMS, IF ANY, AS MAY BE REFERRED TO IN THE ABOVE-LISTED SPECIFICATION ITEMS, AND INCLUDING THE SPECIAL PROVISIONS LISTED ABOVE, CONSTITUTE THE COMPLETE SPECIFICATIONS FOR THIS PROJECT.

SPECIAL PROVISION

008---081

Prosecution and Progress

For this project, Item 008, "Prosecution and Progress," of the Standard Specifications, is hereby amended with respect to the clauses cited below, and no other clauses or requirements of this Item are waived or changed hereby.

Article 8.1. Prosecution of Work. The fourth sentence of the first paragraph is voided and replaced by the following:

Prosecute the work continuously to completion within the working days specified except for as follows. The Department may suspend work under this contract, due to the fabrication and installation of the High Mast Illumination System for a maximum of 180 days. During this delay time, the Contractor will be allowed to work only on High Mast Illumination System items of work. Once these are complete, working day charges will begin. The Engineer and the Contractor may mutually agree, in writing, to increase or decrease this maximum number of days. The Contractor is not entitled to additional compensation due to these delays.

SPECIAL SPECIFICATION

6951

Longitudinal Prefabricated Pavement Markings (PPM) with Warranty

1. **Description.** Furnish and place longitudinal PPM as shown on the plans. Provide a manufacturer's warranty bond for a 6 year period. The Department will allow a Contractor provided warranty bond in lieu of the manufacturer's bond if all conditions of the manufacturer's warranty including the requirements of this Item are met. In such case, the Contractor is responsible for meeting the warranty requirements. Use the form provided by the Department.

2. **Materials.** Use pavement markings that meet the requirements of Type B in DMS-8240, "Permanent Prefabricated Pavement Markings," and that are shown on the Material Producer List (MPL) entitled "Pavement Markings (Permanent, Prefabricated)"maintained by the Department.

3. **Equipment.** Provide equipment as required or directed according to the following (The provider of the warranty bond is responsible for providing equipment during the warranty period unless otherwise shown on the plans.):

   A. Preparation and Application. Use equipment designed for the pavement preparation and application of the type of PPM material selected.

   B. Colorimeter. Provide a colorimeter using 45°/0° geometry CIE, D65 Illuminant, 2° standard observation angle meeting the requirements of ASTM E 1347, E 1348, or E 1349.

   C. Retroreflectometer. Unless otherwise shown on the plans, provide a portable or mobile retroreflectometer meeting the following requirements.

      1. **Portable Retroreflectometer.** Provide a portable retroreflectometer that meets the requirements of ASTM E 1710.

      2. **Mobile Retroreflectometer.** Provide a mobile retroreflectometer that:

         - is approved by the Construction Division (CST) and certified by the Texas Transportation Institute Mobile Retroreflectomter Certification Program for project evaluation of retroreflectivity

         - is calibrated daily, before measuring retroreflectivity on any pavement stripe, with a portable retroreflectometer meeting the following requirements: ASTM E 1710, entrance angle of 88.76°, observation angle of 1.05°, and an accuracy of ±15%;

         - requires no traffic control when retroreflectivity measurements are taken and is capable of taking continuous readings at or near posted speeds

Furnish mobile retroreflectivity measurements in compliance with Special Specification 6629 "Mobile Retroreflectivity Data Collection for Pavement Markings" unless otherwise approved by the Engineer. The Engineer may require an occasional field comparison check with a portable retroreflectometer meeting the requirements listed above to insure accuracy.

4. Construction.

A. General. Prepare the pavement surface using controlled techniques that minimize pavement damage and hazards to the traveling public. Apply the PPM materials, according to the manufacturer's recommendations, using widths, colors, shapes, and at locations as shown on the plans.

Obtain approval for the sequence of work and estimated daily production. Use traffic control as shown on the plans or as approved. Establish guides to mark the lateral location of pavement markings as shown on the plans or as directed, and have guide locations verified. Use material for guides that will not leave a permanent mark on the roadway. Apply markings in alignment with the guides and without deviating for the alignment more than 1 in. per 200 ft. of roadway or more than 2 in. maximum. Remove all applied markings that are not in alignment or sequence as stated in the plans or as stated in the specifications at the Contractor's expense and in accordance with Item 677, "Eliminating Existing Pavement Markings and Markers," except for measurement and payment.

B. Initial Performance Requirements. Meet Article 5, "Performance Requirements" initially, after installation.

The Engineer will conduct a visual performance evaluation of PPM. The Engineer will require the Contractor to test for color, retroreflectivity, and durability only if PPM do not appear to meet the performance requirements. For retroreflectivity the Engineer will use Tex-828-B, "Determining Functional Characteristics of Pavement Markings."

For PPM not meeting performance requirements, repair or replace until reevaluation shows the PPM meet the performance requirements as approved by the Engineer.

C. Written Acceptance. The Department will provide written acceptance after the Contractor meets the initial performance requirements. This written acceptance (see attached sample form) will include the date, location, length, and type of PPM.

5. Performance Requirements.

A. Color. Provide PPM consisting of pigments blended to provide color conforming to highway colors as shown in Table 1.

Table 1
Color Requirements

Federal 595 Color		Chromaticity Coordinates								Brightness (Y)
		1		2		3		4		
		x	y	x	y	X	y	x	y	
White	17855	.290	.315	.310	.295	.350	.340	.330	.360	60 min
Yellow	33538	.470	.455	.510	.489	.490	.432	.537	.462	30 min
Black										5 max

B. Retroreflectivity. Provide PPM for longitudinal markings meeting the minimum retroreflectivity values listed in Table 2.

Table 2
Minimum Retroreflectivity Requirements

Color	Retroreflectivity, $mcd/m^2/lx$, Min
White	120
Yellow	120

C. Durability. Provide PPM that do not lose more than 5% of the striping material in a 1,000- ft. section of continuous stripe or broken stripe (25 broken stripes). Pavement markings must remain in the proper alignment and location.

D. Performance Evaluation Procedures. Provide traffic control and conduct evaluations of color, retroreflectivity, and durability as required or directed.

1. Color. Measure color using 45°/0° geometry CIE, D65 Illuminant, 2° standard observation angle in accordance with ASTM E 1347, E 1348, or E 1349.

2. Retroreflectivity. Unless otherwise shown on the plans, conduct retroreflectivity evaluations of pavement markings with either a portable or mobile retroreflectometer. Make all measurements in the direction of traffic flow, except for broken centerline on 2-way roadways, where measurements will be made in both directions.

If using a portable retroreflectometer, take a minimum of 1 measurement every mile on each series of markings (i.e., edgeline, center skipline, each line of a double line, etc.), at locations approved by the Engineer. If more than 1 measurement is taken, average the measurements. For all markings measured in both directions, take a minimum of 1 measurement in each direction. If the measurement taken on a specific series of markings within each mile segment falls below the minimum retroreflectivity values, take a minimum of 5 more measurements at locations determined by the Engineer within that mile segment for that series of marking. If the average of these 5 measurements falls below the minimum retroreflectivity

requirements, that mile segment of the applied markings does not meet the performance requirement.

If using a mobile retroreflectometer, review the results to determine deficient sections and deficient areas of interest. These areas do not meet the performance requirements.

3. **Durability.** Measure durability in accordance with ASTM D 913 for marking material loss and visual inspection for alignment and location. Conduct evaluations at locations approved by the Engineer.

6. Warranty Requirements.

Each warranty period is for 6 yr. and starts the day after written acceptance.

The marking warrantor is responsible for meeting Article 5, "Performance Requirements" for the duration of the warranty period.

During the warranty period, the Engineer will conduct periodic visual performance evaluations of PPM. For retroreflectivity the Engineer will use Tex-828-B, "Determining Functional Characteristics of Pavement Markings." The warrantor may be present during these evaluations. For areas, which, in the opinion of the Engineer, have a questionable visual evaluation, the warrantor may replace the PPM or may conduct a performance evaluation for the performance requirement in question, according to Section 5.D, "Performance Evaluation Procedures." Conduct retroreflectivity evaluations according to Section 5.D.2, "Retroreflectivity," using either portable or mobile retroreflectometer unless otherwise shown on the plans. The warrantor is responsible for traffic control when conducting performance evaluations.

The warrantor will replace PPM that fails to meet the color, retroreflectivity, or durability performance requirements during the warranty period. Replace PPM that fails to meet the performance requirements within 30 days of notification.

All replacement PPM must meet the materials and performance requirements of this specification, under the following conditions to complete the warranty period:

If the longitudinal PPM fails to meet the performance requirements in Article 5 in Years 1 through 4, use materials meeting Type B requirements of specification DMS-8240.

If the longitudinal PPM fails to meet the performance requirements in Article 5 in Years 5 or 6, use materials that meet DMS-8240 (Type A or B) or on the MPL entitled "Pavement Markings (Multipolymer)," to meet the performance requirements of Article 5.

The end of the warranty period does not relieve the warrantor from the performance deficiencies requiring corrective action identified during the warranty period.

The Engineer may exclude PPM from the replacement provisions of the warranty period, provided the Engineer determines that the failure is a result of outside causes rather than defective material. Examples of outside causes are extreme wear at intersections, damage by snow or ice removal, and premature pavement failure.

Provide a contact person, address and telephone number for notification of needed PPM replacement.

7. Measurement. This Item will be measured by the foot; by each word, symbol, or shape; or by any other unit shown on the plans. Each stripe will be measured separately.

This is a plans quantity measurement Item. The quantity to be paid is the quantity shown in the proposal unless modified by Article 9.2, "Plans Quantity Measurement." Additional measurements or calculations will be made if adjustments of quantities are required.

8. Payment. The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Prefabricated Pavement Markings (PPM) with Warranty" of the type and color specified and the shape, width, and size specified as applicable, at the time of project acceptance. This price is full compensation for materials, application of PPM, equipment, labor, tools, and incidentals.

PPM INSTALLATION RECORD FOR WRITTEN ACCEPTANCE

** Warranty period begins the day after written acceptance.

COUNTY HIGHWAY	CONTROL PROJECT	LIMITS FROM LIMITS TO	LENGTH	TYPE PPM	ACCEPTANCE DATE

Contractor signature _____ _____
Date

Department signature _____ _____
Date

WARRANTY BOND		CONTRACT NO.	
		COUNTY	
		BOND NO	

KNOW ALL PERSONS BY THESE PRESENTS: That we, _ _____, manufacturer of or Contractor for prefabricated pavement markings, as Principal, and _ _____, as Surety, are held and firmly bound unto the State of Texas, as Obligee, in the penal sum of _ _____ _ Dollars **$_ _____**, lawful money of the United States, well and truly to be paid to the State of Texas, and we bind ourselves, our heirs, successors, executors, and administrators jointly and severally, firmly by these presents.

Whereas, the above bounden Principal has provided prefabricated pavement markings to _ _____for the foregoing contract entered into between _ _____ and the Obligee, attached hereto; and

Whereas, the Principal is required to protect the Obligee against any defects resulting from faulty prefabricated pavement markings installed under said contract for a period of 6 years beginning the day after written acceptance.

Now, therefore, the condition of this obligation is such that if the above bounden principal, its heirs, successors, executors, and administrators shall promptly and faithfully carry out and perform the warranty as provided in said contract, and shall, within thirty days of due notice, replace any installed prefabricated pavement markings that may fail to meet Obligee's performance evaluation as provided for in the Contract during the period specified above or shall pay over, make good, and reimburse to the said Obligee all loss and damage that said Obligee may sustain by reason of failure or default of said Principal so to do, then this obligation shall be null and void, otherwise it shall remain in full force and effect.

Provided further that the end of a warranty period shall not relieve Principal from its obligation to correct deficiencies requiring corrective action, so long as those deficiencies are identified during the warranty period.

WITNESS our hand this ____ day of _____ 20 ____.

_____
(Warrantor Name)

_____ * By: _____
****SURETY** (Print Firm Name and Seal) (Warrantor Officer)

By: _____ * By: _____
(Title) (Warrantor Officer)

_____ _____
****SURETY** (Print Firm Name and Seal) ****SURETY** (Print Firm Name and Seal)

By: _____ By: _____
(Title) (Title)

* Attach a Power of Attorney showing that the officer of the warrantor has authority to sign this obligation.

** Attach a Power of Attorney showing that the surety officer or Attorney-In-Fact has authority to sign this obligation; the Power of Attorney and bond must be impressed with the corporate seal. The surety must be a US Treasury listed company and provide notification information.